DOCUMENT RESUME

ED 281 984	CE 047 043

AUTHOR	Akamine, Toshio; Dillard, Cynthia B.
TITLE	Improving Access of Special Populations to Vocational Education in the Yakima School District. Final Report.
INSTITUTION	Washington State Univ., Pullman. Dept. of Elementary and Secondary Education.
SPONS AGENCY	Washington State Commission for Vocational Education, Olympia.
PUB DATE	31 Dec 86
NOTE	143p.
PUB TYPE	Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	*Access to Education; Advisory Committees; Disabilities; *Disadvantaged Youth; Economically Disadvantaged; *Educational Attitudes; *Enrollment; *Enrollment Influences; Ethnic Groups; Females; High Schools; Limited English Speaking; Migrant Youth; Parent Attitudes; Student Attitudes; Student Recruitment; *Vocational Education
IDENTIFIERS	Special Needs Students; Yakima Public School District WA

ABSTRACT

This study sought to determine and examine the barriers to student enrollment in vocational education programs, especially as they related to ethnic minority, economically disadvantaged, limited English proficient, handicapped, migrant, and female students, as perceived by students, parents, and vocational advisory committee members in the Yakima (Washington) School District. To identify such barriers, researchers used the following data collection procedures: (1) on-site collection of data on vocational courses taken by 10th-12th grade students, as well as information on sex, race, English proficiency, economic disadvantagement, and migrant status; (2) an on-site survey of 1,783 students in grades 10-12; and (3) mailed surveys of 200 parents and 49 vocational advisory committee members. The study found that special needs populations enrolled in vocational education in similar percentages as majority student populations, but that there were differentiated patterns of enrollment in vocational courses by special needs and majority populations. The study also found significant barriers to vocational education programs and consequent employment perceived by students, parents, and advisory committee members. These barriers include the inability to schedule vocational classes, inadequate vocational program counseling, and lack of information regarding vocational education. Recommendations to increase student access to vocational courses are made as a result of the study. (Appendixes include the study instruments and supplementary forms and checklists.) (Author/KC)

WA 8613/01

ED281984

Final Report

Project Number 86-CVE-53

Improving Access of Special Populations to Vocational Education in the Yakima School District

Research Project in Vocational Education
Conducted Under
Public Law 94-482

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CE047043

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Abstract

This study sought to determine and examine the barriers to student enrollment in vocational education programs, especially as they related to ethnic minority, economically disadvantaged, limited English proficient, handicapped, migrant and female students, as perceived by students, parents and vocational advisory committee members. To identify such barriers, researchers used the following data collection procedures: 1) on-site collection of data on vocational courses taken by 10-12 grade students, as well as information on sex, race, English proficiency, economic disadvantagement and migrant status; 2) on-site survey of 1783 students grade 10-12; 3) a mail survey of 200 parents and; 4) a mail survey of 49 vocational advisory committee members. Among the findings were the following: 1) special needs populations enrolled in vocational education in similar percentages as majority student populations; 2) there were differentiated patterns of enrollment in vocational courses by special needs and majority populations and; 3) there are significant barriers to vocational education programs and consequent employment perceived by students, parents and advisory committee members including the inability to schedule vocational classes, inadequate vocational program counseling and lack of information regarding vocational education.

(A) Problem Area Toward Which this Project was Directed

Introduction

Vocational education, in recent years, has provided special opportunities for students with special needs. However additional emphasis, particularly in this age of high technology and specialization, and accelerated efforts are necessary to help further improve these opportunities. As mentioned in the original grant proposal, special needs populations represent an ever increasing segment of the workforce in the Yakima community and would be better prepared for employment if provided an opportunity for work training through vocational education. Although district philosophies, policies and programs have been adapted to reflect the changing ethnicity within the Yakima School District, this comprehensive study of the characteristics, patterns and trends of special needs populations and their enrollment served to indicate additional opportunities for vocational education access and improvement.

This literature review of previous research and writings outlines the reasons, issues, and concepts that directly impact the ability of vocational education to deliver its unique brand of services to special groups. It also served as the basis for this study and the development of the research design and instruments used to gather data.

Specifically, this review of the literature, regarding accessibility of special needs students to vocational education, was organized into three major sections: 1) the importance of vocational education for the secondary special needs student; 2) current enrollment trends and employment of secondary special needs students in vocational education and; 3) perceived barriers to secondary vocational education by special needs students.

This review of the literature was organized primarily through the use of an ERIC (Educational Research Information System) search. A review of the Education Index, The Education of Poor and Minority System Index, examination of various papers, reports, theses, dissertations and publications, and interviews with Yakima School District and state vocational education personnel also further served as valuable resources in preparation of the most comprehensive literature review possible.

1. The Importance of Vocational Education for Special Needs Students

It is important to begin with a definition of special needs students. For the purpose of this literature review and this study, special needs students are any student who has specific problems (physical, mentally, socially), that limit or prohibit such person from fully participating in regular vocational education programs (Phillips, 1976). This study deals specifically with the following special needs student groups: a) ethnic minorities, b) limited-English proficient (LEP)/migrant, c) handicapped, and d) females. Discussion of the importance of vocational education for each of those groups follows.

a. Ethnic Minorities

The Vocational Education Act of 1963 and the 1968 Amendments sought to end the near fifty years of concentration on the specialized skills needed by occupational categories and to redirect the objectives to meet the employment needs of various populations and groups. These acts, in the opinion of Moody and Sheppard (1976), have made little impact on the basic problem affecting ethnic minority youth in the labor market.

It is therefore important that ethnic minority youths be given a broader preparatory vocational curriculum which interacts with a larger socio-economic system to better prepare them for work (Moody & Sheppard, 1976). The absence of these support systems often hampers the success of ethnic minority youths who, lacking this help, often fail (Chahin, 1983; Guerra et al., 1973; Guerra & Shuman, 1974). Given their needs, ethnic minority youths are receiving too little, too late and not always oriented in the right direction (Moody & Sheppard, 1976). This is unfortunate and is being addressed in the 1980s with calls for increased counseling, outreach, recruitment and retention strategies and agendas in vocational education for ethnic minority and all special needs populations (AVA, 1981).

Vocational education alone cannot solve such barriers and problems as discrimination, historical biases, cultural value differences and negative societal attitudes that face ethnic minority employees (Gurin et al., 1969; Maurice et al., 1984; West Virginia Department of Education, 1980). However vocational education can and should serve as a major part of a total educational system working together to enable ethnic minority students to realize success in our society.

Unemployment rates for all youth are three to four times greater than for adults. Black youths suffer triple the unemployment rate of white youths and Mexican American youths (National Council of La Raza, 1985; AVA, 1978). These conditions provide an even further justification for the need for adequate vocational preparation in the high school curriculum for ethnic minority students. Although Blacks and Mexican Americans are the two largest ethnic minorities in the U.S. today, they still face obstacles socially and in the workplace. It may be reasoned that other minority groups have similar situations, with all groups subject to discrimination on the basis of color and/or cultural differences (Davenport, 1981; Vasquez, 1978). Therefore, vocational education, with its increased emphasis on upgrading skills, an orientation to the basics of employer expectations, knowledge of careers and effective career counseling and information on attainment of advanced skills is a critical component in the preparation of secondary ethnic minority students (Davenport, 1981). Through participation in secondary vocational education, ethnic minority students can gain valuable training, necessary to improve the employment situation and economic climate facing them today.

b. Limited English Proficient (LEP)/Migrant

The literature reviewed regarding limited English proficient students and migrant failed to make a distinction between: 1) students of Hispanic decent, 2) students of migrant workers, and 3) students who may or may not be of Hispanic origin and who may or may not be limited in his/her English language ability! Therefore, this section of the literature review will deal, in a very limited scope with the non-English proficient (LEP) or limited English proficient (EP) Mexican American student who may or may not also be migrant.

Mexican Americans, both recent immigrants and those of birth in the U.S. suffer more adversely than whites, economically. Three factors account for their generally greater unemployment rates than whites: 1) there are significantly higher numbers of young workers in the Spanish-speaking labor force, 2) they have a lower average level of educational attainment, and 3) there is a greater relative concentration of Mexican Americans in areas of the West and Southwest, where unemployment, on the average, is higher (National Council of La Raza, 1985). According to La Raza, Hispanic persons are primarily concentrated in occupations characterized by high unemployment rates. Most of the newly arriving immigrants, both Spanish and English speaking, will compete for employment in industries that are the first to experience business decline and can, therefore, be expected to contribute heavily to sharp rises in the unemployment rate.

Every state has some Spanish speaking residents—and the numbers are rapidly increasing. The Hispanic population is visible because of its location in major metropolitan areas and the prosperous and developing Sunbelt. According to the U.S. Department of Commerce (1980), two thirds of all Hispanics live in three states: 33 percent live in California, 21 percent in Texas, and 11 percent in New York. In Washington state, 2.9 percent of the state population or 119,986 persons are of Hispanic origin or .8 percent of the national Hispanic population.

Language differences contribute to a number of assimilation problems for the Mexican American (Williams, 1973). In addition, educational, social and economic frustrations for the Spanish-speaking student manifest themselves in extremely low educational attainments, (Cervantes, 1976; Commission on Mexican American Affairs, 1985; National Council of La Raza, 1985; National Center for Educational Statistics, 1982) low employment status and high unemployment (Williams, 1973).

One important aspect of vocational education is to enable students to fulfill their career aspirations. This includes teaching both attitudes, which aid in assimilation into the mainstream culture without loss of one's own culture, as well as job skills (Valdez, 1976).

Vocational education has, to a limited extent, begun to challenge the notion of the need to learn English to succeed in the short-term, with regards to employment. Constenada's study (cited in Valdez, 1976) indicated many employers of migrant agriculture workers have learned the language of the worker in order to better communicate and train their workers. Bilingual vocational education programs are increasingly becoming available for those people wishing to learn practical job skills as well as the English language (Valdez, 1976).

Vocational education for linguistically different students offers an effective choice for increasing mobility and occupational success. Although additional English as a second language or occupational English vocational courses are desperately needed, funding for these types of specialized programs has been sporadic (Valdez, 1976).

c. Handicapped

In general, physically impaired persons want to work for the same reasons as non-disabled persons (i.e., want to function as adults, gain financial independence, develop self-respect and competence). But vocational education takes on an even more important meaning for many disabled people. Bougea (1974) states that the role and goals of work take on special meaning to the disabled person because they often feel challenged and inadequate—less than an adult. To them, work represents the road to normality.

Hundreds, maybe thousands of students with physical disabilities view work in a manner critical to their self image. Tapman (1972) estimated that nearly two million handicapped students left school in 1977 without skills necessary for productive participation in society. Smittkamp (1971) sees education as the *only* avenue to independence for the handicapped student. Greenleigh Associates (1969) conclude that adequate job training is the overwhelming need for handicapped students, to fully prepare them for retention of meaningful employment. The Greenleigh study, in addition stresses the goal of bringing hundreds of disabled persons into the labor force.

Therefore, handicapped students need to be educated, both academically and vocationally to their full potential. In order to improve employment capabilities, career alternatives for handicapped students must be increased by requiring that they have access to the basic and special resources of vocational education, continuing education and higher education (Weintraub, 1974).

d. Females

Almost 42 million women, or about half of all women in the U.S. sixteen years of age and over, were either working or reportedly looking for work in mid-1978 (U.S. Department of Labor, 1978). The labor force projections to 1990 issued by the Department of Labor forecast a significant expansion in the proportion of the labor force accounted for by women to about 45-46 percent of the total by 1990. However, women currently earn only 60 percent of salaries of men (AVA, 1981).

There have, however, been changes in American policy and practice that would better equalize the income of both working males and females—namely higher pay for traditionally "female" work and an increase in the employment of women in higher paying, traditionally "male" jobs (AVA, 1981).

Occupational segregation by sex of the labor force is reflected currently in vocational education enrollments (AVA, 1981) while slightly more than half of students enrolled in vocational education are female, by far the greatest number of women are in the traditional areas of home economics, business and office and health occupations. According to the National Center for Educational Statistics (1984), males earned two-thirds of their total vocational credit in trade and industrial arts/technology courses while females earned only about 12 percent of their total vocational credit in these areas. By contrast, three-fourths of the vocational credits earned by female vocational students were in business and home economics.

These roles and enrollments are changing. Vocational education can play a significant role in preparing women to enter nontraditional fields and compete for traditionally higher paying male dominated jobs (AVA, 1981; Vetter, 1979).

2. Current Enrollment and Employment Trends of Special Needs Students in Vocational Education

Enrollment Trends

According to the U.S. Department of Education's study High School and Beyond (cited in National Center for Education Statistics, 1983), there are some major differences in the extent to which students participate in vocational education. These differences vary by racial/ethnic group socio-economic status (SES) and performance group. As would be expected, those students who indicated they were enrolled in a vocational program earned more credits in vocational education (6.5 credits) than graduates in academic or general programs of study (2.7 and 4.6 credits, respectively).

Hispanic graduates of public high schools earn more credits (5.0) in vocational education than did their black (4.5) or white counterparts (4.3). These differences, according to the U.S. Department of Education are due to the higher participation by Hispanic students in exploratory vocational education courses (i.e., those not preparing students for specific occupations).

Public school graduates of lower socio-economic status (SES) tend to enroll more often and earn more vocational credits (5.2) than those of high SES (3.0). Additionally, those graduates with lower cognitive test scores tend to earn more vocational credit (5.4) than those in higher test score groups (2.9).

The High School and Beyond study data also showed the amount of coursework taken in each of the specific vocational subject matter areas by male and female students in each of three curricular program areas. Based on the average number of vocational credits taken, males and females in academic and general programs took more exploratory (1.6) than occupational vocational courses or those preparing students for specific occupations (1.1). The opposite was true for students in vocational programs, where more occupational vocational coursework was taken by both males and females (3.3 and 4.0 respectively). More specifically, in all curricular groups females tended to earn more credits than males in both occupational and exploratory business courses. And regardless of curricular area males earn two-thirds of their total vocational credits in trade and industrial arts and occupational trades courses, while females earn only about 23 percent of their total vocational credit in these areas. By contrast, three-fourths of the vocational credits earned by female vocational students were in business and home economics.

In terms of total enrollment, minority students make up 24 percent of the total enrollment in vocational education (National Center for Educational Statistics, 1984). Among all students in vocational education programs 51.6 percent are female and 48.4 percent are male. More than 400,000 vocational education students have handicaps, and most of these students are mainstreamed into regular programs. No statistics were available on the number of limited English proficient and/or migrant students enrolled in vocational education.

In Washington state the total enrollment in vocational education for school year 1979-80 was 441,000. Only nine percent of those students were ethnic or racial minorities (National Center for Educational Statistics, 1984).

Employment Trends

The short-term outcomes of secondary vocational education might be measured by the types of jobs held by graduates from these programs.

The National Center for Research in Vocational Education (1980) studied the most recent jobs of 17-21 year old high school graduates. This study defined vocational and nonvocational students according to their high school transcripts. Five patterns of participation were constructed based on the amount, timing, and degree of specialization of the vocational course-taking. Each student was assigned to the pattern to which he or she fit best. Approximately one-third of the sample could not be classified because of incomplete transcripts.

According to the study, about one-fifth of all male graduates worked as physical or mechanical laborers their most recent job following high school. Among females, by far the most common jobs were in clerical occupations (44 percent), followed by service occupations (24 percent).

Although the distributions of most recent jobs held were generally similar for graduates with limited vocational education and those with none, striking differences were apparent when comparing vocational concentrators and nonvocational students. It should be remembered, however, that in this context, nonvocational students were considered to be only those who had taken no high school vocational coursework.

Among males, twice as many concentrators as nonvocational graduates worked in craft occupations. The figures were 33 percent for vocational concentrators and 15 percent for nonvocational graduates. Further, only half as many male vocational concentrators as nonvocational graduates, proportionately, worked in professional/technical, clerical, or service jobs.

Among females, 61 percent of vocational concentrators worked in clerical occupations, whereas 37 percent of nonvocational graduates did. Nearly 20 percent of the female nonvocational graduates held professional/technical jobs, compared with only two percent of vocational concentrators. Greater percentages of female nonvocational graduates than vocational concentrators worked in sales and service jobs, and fewer female nonvocational graduates held jobs in physical or mechanical occupations.

This study addressed the specific enrollment of special needs populations by grade collectively as well as by the group(s) they represented. Unlike other literature reviewed, this information served to indicate patterns and trends in enrollment of special needs students in vocational education in the Yakima School District, further justifying the need for a study of its type.

3. Perceived Barriers to Secondary Vocational Education

Introduction

Since the 1976 Amendments to the Vocational Education Act of 1963, vocational education has been charged with providing opportunities for special groups of students, including handicapped, disadvantaged, multicultural, females, LEP (Limited English proficient) and migrant students. This study had as a major objective the identification of attitudinal and organizational barriers which stood to limit or prohibit enrollment in vocational education of special needs students. But the literature reviewed suggested that successful enrollment and involvement of these populations had been elusive. These students are currently not represented in high school vocational education courses in proportion to their incidence in the population. According to the National Commission on Secondary Vocational Education (1984), gender linked enrollment patterns in traditionally male or female dominated courses have also been slow to change. The inflexible pattern of formal education, which makes little allowance for unique talents and special needs, has caused many youth to see schooling, both vocational and academic, as a barrier to personal success and the future rather than an opportunity (Venn, 1978).

Vocational educators too, have reported that, even among the most successful education programs, a number of barriers stand in the path of those students with special needs (Scanlon, 1982; Venn, 1978). Scanlon (1982) and Maurice et al., (1984) also state that frequently these are perceived barriers that may or may not be "real," existing in the minds of students, teachers, counselors and administrators, regarding various practices and procedures which prevent students from enrolling or re-enrolling in vocational training programs and successfully obtaining adequate work skills.

The following review of the literature serves to identify previously studied barriers to secondary vocational education.

Perceived Barriers to Vocational Education

The barriers/concerns from the literature provide a basis for studying the perceptions of the disadvantaged student with regard to their choice or non-choice of vocational education program courses. It was found that these barriers could be organized into four (4) major categories: 1) significant others (including parents and other role models), 2) personal ability and characteristics of the student, 3) economical factors, and 4) institutional factors. Each is discussed in the following details:

1. Significant Others

Maurice et al. (1984), in his comparative study identifying differences in barriers for advantaged and disadvantaged students entering vocational education found that parental encouragement was a powerful intervening variable between socio-economic class background and intelligence. Further, he suggested that the aspirations of youth are determined to a large extent by their home environment and subsequent parental influence. Therefore, the extent to which parents are able to positively (or negatively) influence the occupational goals of their children is limited to a large degree by their own occupational pre-disposition. For example, he found educational attainment of the student is dependent upon the influence, perceived encouragement and prestige of the parent's occupation. Hence the occupational aspiration of disadvantaged, minority and/or migrant students is impeded by the low prestige value of the occupations found in many of their environments.

A significant barrier for racial minority students, and females is the lack of racial minority peoples in positions of authority or instruction, to serve as positive role models (Commission on Mexican American Affairs, 1985; National Center for Research in Vocational Education, 1984; West Virginia Department of Education, 1980). Additionally, the West Virginia study cites the lack of career role models, especially with regard to nontraditional occupations. Westbrook (1986), even concluded that the American Vocational Association (AVA), by fully involving minorities as role models in leadership positions and activities, could 1) break down racial stereotypes, 2) improve the image of vocational education, and 3) attract a broader range of students, especially racial minorities. Further, the National Advisory Council on Vocational Education (1972) in their study on attitudes of youth in relationship to vocational education found that among minority groups, there was a well founded suspicion that counselors, especially non-minority counselors, are influenced in their guidance of minority students that these students are fit only for the more menial occupations. Because minorities are underrepresented in many occupations, they are also underrepresented on vocational faculties whose majority group orientation is forbidding to them. Guerra, et al. (1974) suggests also that the high counselor student ratio also serves as a barrier to special needs students. Alternative forms of guidance and occupational counseling, and realistic information provided by counselors is critical in the admission, retention, and success of these students in vocational education.

2. Personal Ability and Characteristics of the Student

One way to look at barriers to participation in vocational education programs is to study the reasons why students enter vocational education programs. If students enter programs for the wrong reason (i.e., they had friends in the program) or if they entered because they couldn't gain access to another program, then different kinds of barriers exist. In the first case, it may be a personal development barrier (career maturity) and in the latter case, it may be an institutional barrier. Regardless of their label, they both contribute to the same outcome; barriers to vocational education for students with special needs.

When Maurice et al., (1984) compared disadvantaged and advantaged students on several personal characteristics which affect vocational program selection, the following characteristics were found amongst disadvantaged students:

a. They exhibited a lower self concept;

b. demonstrated a low level of career maturity including unplanned program selection and unrealistic career aspirations;

c. exhibited a low level of motivation; tended to select "lower end," non-challenging programs;

d. thought themselves to be less successful in school to a great degree than advantaged; and

e. exhibited a lower level of coping skills.

Further, Maurice indicated that when students opt for a vocational program and place themselves in a career stream, many of the barriers to their success have already been set in place by the social and psychological influences which forged their personal identity.

3. Economic Factors

Economic factors function as barriers when the disadvantaged does not have the necessary funds or resources to fully participate in vocational training or consequent employment. These students, due to the economics of their situation, tend to be heavily preoccupied with immediate basic survival needs such as food, shelter, clothing, and money (Chahin, 1983; Guerra et al., 1974; Maurice et al., 1984), and are less able to allocate the money equipment or clothing which is necessary for participating in many vocational education programs.

4. Institutional Factors

Institutional factors impose barriers when the policies of educational organizations cause certain subgroups, because of personal, social, or economic characteristics, to be more privileged than others. These institutional factors found in the literature included program recruitment materials, student scheduling, exclusive use of English language, entrance testing, and institutional factors specifically affecting females. Each is discussed in further detail following.

a. Program Recruitment Materials

Maurice et al. (1984) found that brochures and other vocational program recruitment materials tended to discourage the special needs student from considering and consequently enrolling in vocational programs, partially due to the negative portrayal of ethnic minority persons and females in the materials. Minority candidates and females were heavily used on brochures for low-level vocational programs and excluded from use on the high-level program brochures. He found additionally, there were language barriers inherent in the recruitment materials including high reading level difficulty, the use of only the English language, the formality of the material and the inadequacy with which the material addressed the questions and concerns that would come from the special needs or even hesitant student.

b. Student Scheduling

The administrative process of scheduling students into classes they want and need is the biggest barrier to vocational education programs (Frazier, 1983). In his study of the barriers to vocational program completion, he suggested that more innovative ways to schedule students and identifying their scheduling constraints "up front," would lead to significant increases in both the number and variety of students able to enroll in vocational programs of study.

Additionally, the high school graduation requirements are increasing nationwide. There was virtually no literature which suggested or correlated the enrollments in vocational education with the increase in these requirements. However, Seckendorf and Tate (1983) in their study to determine vocational and academic students' attitudes regarding specific issues relating to vocational education programs, did find that 29 percent of the academic students indicated lack of time in their schedules was the reason for not taking vocational education courses.

c. Exclusive Use of English Language

Limited English proficient or non-English proficient (NEP) students have additional barriers to vocational education in terms of language. According to La Raza (1985), many LEP/NEP students are completely segregated from the mainstream of school activities, due to faulty learning assessment in English, placed in self-contained special education, English as a second language or other programs. This would leave little, if any, opportunities to participate in vocational education programs. Further, many faculties, both vocational and academic have few trained bilingual staff and teachers or resource persons available to teach and to develop the instructional programs necessary for LEP/NEP students to successfully complete a comprehensive high school academic and occupational preparation program (Commission on Mexican American Affairs, 1985; La Raza, 1985; Mokkos, 1984).

d. Entrance Testing

Many vocational programs, as a criteria for admission, require some type of general entrance exam of their prospective students. Mokkos (1984) discovered there are many hidden ways in which the definition of the qualifications necessary for acceptance in vocational programs have the effect of disproportionately barring certain students, namely racial minority, disadvantaged and handicapped students. In her examination of selection criteria used by various vocational education programs, she found selection criteria and their inherent inequity effects upon special needs students (Table 1).

e. Institutional Factors Specific to Females

Sandler (1982) in his study on internal and external barriers to vocational technical education classes found that students, teachers and counselors all indicated that sex-role stereotyping kept female students out of nontraditional vocational classes. This is further reflected in the current enrollment trends of females in nontraditional vocational courses. Both Thomas et al. (1983) and Dunne (1980) suggest that the attitude of the vocational instructor is a critical factor in participation of females in nontraditional vocational programs. In the Dunne study, those programs found to be balanced in enrollment between males and females, had instructors who had actively encouraged female enrollment through personal contacts, letters, invitations, etc. Conversely, the male only programs had teachers who were tolerant of females at best and openly biased against them at worst.

Table 1

Program Selection Criteria

Types	Inequity Effect
1. Standardized testing (general aptitude, achievement tests or IQ tests)	1. Discriminatory effect on students with special needs (i.e., LEP student, dyslexic student would need oral administration [in native language])
	2. Content of test may be culturally biased because they are written primarily by white middle-class adults and validated on white middle-class students
	3. Different groups perform differently on a given test (girls perform better on verbal tests, boys on math and spatial tests, etc.)
2. Grade point average	1. Are subjective; prone to bias by white middle-class teachers and are influenced by the social class and ethnic background of the student and teacher.
3. Conduct Record	1. Heavily biased against males, economically disadvantaged, ethnic minorities and handicapped.
	2. Favors white middle-class girls.
4. Attendance Records	1. Bias against economically disadvantaged students; they miss more school due to poor health and living conditions, more responsibilities at home than middle-class peers.

Table 1 (Continued)

Program Selection Criteria

Types	Inequity Effect
1. Attendance Records (Continued)	2. Unexcused absences, viewed by many administrators as clear cut indicator of student's lack of responsibility, is not always the case. Many disadvantaged and ethnic minority students must miss school if their families are to function.
5. Interviews and Recommendations	1. Prone to bias; raters give lower ratings to the same material if they think the applicant is female, Black, handicapped or unattractive.
	2. Race, social status and cultural background of rater tends to influence perception of ability of applicant/recommendation.
6. Student's Interest in Course	1. Because interest refers to many different indicators, subject to same pitfalls as other standardized tests.
	2. Biased against all adolescents because they are influenced heavily by peer pressure, the formation and clarification of their own values and their own sex biased stereotypes.

Another major barrier, as indicated by female students is the fear of being the only female in class and therefore being harassed by the male students for their skills and abilities (or lack thereof), sexually or socially (Sandler, 1982). In his research which included a comparison of perceptions and actual practice, these perceptions held by females were experienced when they enrolled in nontraditional vocational courses.

A lack of female role models in nontraditional vocational courses also serves as a barrier to vocational education for female students (Krevet, 1976; Sandler, 1982; Thomas et al., 1983). Additionally, information available regarding the availability of employment opportunities for females during and upon completion of the nontraditional vocational program is limited (AVA, 1981; Sandler, 1982; Thomas et al., 1983). Most often, vocational program posters and brochures do not portray females in nontraditional occupations, thus further perpetuating the perceptions either false or true, of students, parents, teachers, and counselors.

These critical barriers, individually and collectively, shape and influence attitudes, values, and perspectives that are detrimental to enrollment in vocational education by special needs populations and impose limitations or barriers to their preparation for their vocational role in society. This study served to outline the general organizational and attitudinal barriers limiting or prohibiting students from fully participating in vocational education, as well as those barriers specific to the population in the Yakima School District.

(B) Goals and Objectives of the Project

Primary Goal

The primary goal of this project was to improve access to vocational education programs within the Yakima School District. Information regarding access opportunities for special populations was emphasized. In addition, it was a secondary goal of this study to provide a model for school districts desiring to improve accessibility for all students to vocational education programs.

Project Objectives

The following objectives served to ensure the achievement of the main project goal. These objectives were performed in joint cooperation between the Yakima School District and Washington State University.

1. Identify and assess the extent of student access to and utilization of vocational programs within the Yakima School District form school year 1982-83 to 1985-86.
2. Identify existing organizational and attitudinal barriers which prohibit access to vocational education programs within the

Yakima School District, especially as they relate to special populations.

3. Develop strategies to minimize attitudinal and organizational barriers and improve the accessibility of all students to vocational education programs in the Yakima School District.

(C) Project Design and Procedures

The following description of the general project design and procedures for the vocational education accessibility project is divided into three parts. Each outlines the design and procedures used for the three main objectives of the project as stated in Objectives of the Project.

Section 1 - Student Access and Utilization of Vocational Programs in the Yakima School District from 1982-83 to 1985-86

In order to determine the accessibility to and utilization of vocational programs in the Yakima School District, it was necessary to systematically collect data regarding the enrollment of students in these programs. The design and procedures of the student enrollment data collection are outlined following.

Population and Sampling Techniques Used

The population consisted of all students currently enrolled in grades 10-12 in the Yakima School District. Students in this population were enrolled in Davis, Eisenhower or the alternative program at Madison High School. In that it was important to gather the most accurate and complete student enrollment information possible, utilizing the available staff, the researchers, after consultation with the district, determined that it was feasible to collect data on each 10-12 grade student enrolled at Davis and Eisenhower only. Therefore the sample for student data collection consisted of the entire population of the two regular high schools. The size of the population was 1184 students.

Types and Sources of Enrollment Data Collected

The following data was needed to adequately determine accessibility and utilization of vocational programs in Yakima, especially in relationship to special needs students: 1) school, 2) grade level, 3) gender, 4) ethnicity (race), 5) special education and/or handicapped status, 6) English proficiency, 7) economic disadvantaged condition (school lunch), 8) migrant status, and 9) vocational courses taken at either the skills center or the home high school.

The types of enrollment data collected was available through the Registrar's Office at each school. Student's full name, student identification number, gender, grade level, and the specific vocational courses taken was obtained from each student's official transcript. Information on the race of the students was obtained from a listing of students by race kept by the district office. In limited cases, where the student was newly enrolled or was not on the race listing, the principal investigator, using the photograph on the official transcript, determined the race of the student.

Information on special education, limited English proficiency, and migrant status was provided via listings kept by the district office. Eligibility for the free or reduced school lunch program was the determinant for economic disadvantagement and a listing of students who qualified was obtained from the office of the registrar at each school.

Design for Data Collection

Due to the large numbers in the sample population, systematic and accurate data collection was extremely important. In order that the data collection process be systematic, accurate as well as efficient, in terms of both the ease of data collection and feasibility for computer applications, a uniform data collection form was prepared prior to the actual data collection. This form (Appendix A) was designed, with assistance and consultation from the vocational director and others in the Yakima District, before the final form was developed. Each vocational course, offered at both the Yakima Valley Vocational Skills Center and the two regular high schools, was assigned a three to eight digit variable code, corresponding to the actual name of the course (i.e., ACCT1A = Accounting 1A). Courses were then coded with a B if they were offered at both schools, an E for courses offered only at Eisenhower and a D for those offered only at Davis. This aided the principal investigator in recording accurate vocational enrollment information for each student.

Each variable (information sought) and each value (actual information gathered) was coded and labeled to be compatible with the data entry format used for computer operations. That is, each variable and value were coded exactly as they were entered into the computer.

All data, except the student's name, was entered, processed and statistically analyzed utilizing the IBM mainframe computer at WSU via CMS and SPSSX. Sample data was entered, prior to the actual student enrollment data collection, to check for accuracy and workability of the program, which was designed by one of the principal investigators of the project.

Data Collection Procedures

Arrangements were made approximately four weeks prior to the actual on-site visitations, with the registrars at each high school, for the principal investigator to examine and collect enrollment data from each

10-12 grade student's transcript. The actual on-site data collection day by day was as follows.

Day 1	Arrived at Eisenhower High School: Briefed on location of transcripts, where to work, etc. Collected data for all 10th grade student enrollment data.
Day 2	Collected Eisenhower 11th grade
Day 3	Collected Eisenhower 12th grade
Day 4	Arrived at Davis High School given same briefing as Eisenhower. Collected 10th grade student enrollment data.
Day 5	Collected Davis 11th grade student enrollment data. Collected Davis 11th grade student enrollment data.
Day 6	Collected Davis 12th grade student enrollment data.
Day 7	Picked up listing of migrant, handicapped, limited English and economically disadvantaged students at district office. Returned to WSU.

(Due to the utilization of the student transcripts by the counselors for preregistration at Davis High School, the principal investigator spent the first three days of one week at Eisenhower and returned the following week for four days, to complete the data collection.)

Using each student's official transcript, checks (✓) were made on the student enrollment data collection sheet for each variable indicated on the transcript and for each vocational course which the student had enrolled. In some cases new courses had been added since the form was designed and printed. These courses were written on the additional variables line on the data collection form and were added as new variables upon return to WSU. Each student was then assigned a four digit I.D. number, which allowed reference to the information corresponding to that particular student after this information had been entered into the computer and that name was no longer available.

Section 2 - Identification of Organizational and Attitudinal Barriers Which Prohibit Access to Vocational Education in the Yakima School District

Preliminary Identification of Attitudinal/Organizational Barriers

In order to become aware of possible barriers to vocational education programs, it was necessary to conduct a comprehensive state and national review of the literature on previously identified barriers to vocational education, both for majority and special needs populations. As a result of this literature review, a preliminary list of eleven possible barriers to participation in vocational education was developed. In order to assess the validity of this list in relationship to the Yakima School District, it was mailed to the Vocational Director of the district, who, through systematic inquiries with an input from educational instructors, counselors, and administrators, revised and verified the validity of the list, in relationship to distinct characteristics of the district. No changes were made to the original eleven possible barriers by the district personnel. One additional barrier that possibly limited or prohibited students from full participation in vocational education was added to the list by district personnel: "lack of knowledge about The Yakima Valley Vocational Skills Center course offerings." (See Appendix B, Possible Barriers to Participation in High School Vocational Education.)

With the list of possible barriers completed, the data collection procedures and instruments were then developed.

Data Collection Instruments

Sampling Technique Used. According to Gay (1981), the first step in sampling is the definition of the population. For the purposes of this study, three populations were identified and defined as follows: 1) all current 10, 11, and 12th grade students, 2) all parents of high school students currently attending Yakima schools, and 3) all current high school vocational education advisory committee members. Because of the limitations of the study outlined previously, decisions were made regarding the priority of information to be gathered and consequently, the generalizability of the results. After consultation with Yakima School District personnel regarding the feasibility of sample size in relationship to assistance available from school district personnel and computer capabilities, the following samples were selected: 1) 95 percent of 10, 11, and 12th grade students (n = 1900), 2) 6.5 percent of all parents of high school (n = 200) students currently attending Yakima schools, and 3) 100 percent of current high school vocational education advisory committee members (n = 49). Since on-site surveys were administered to all 10-12 grade students in attendance on a selected day, allowance had to be given for those students who were not in attendance on that day. Daily absentee rates at the secondary level in the Yakima School District average approximately five percent, therefore, it was possible to survey only 95 percent of the total identified student population.

The size of the parent sample was determined by the Yakima School District personnel and the WSU Research Team as being representative of the total parent population, as well as being manageable in terms of the personnel available to sort, run and mail the address labels for the parent survey mailing.

The methods used to actually select the parent sample was systematic sampling. This type of sampling involves selecting parents from a random list by taking every Kth name (i.e., if K = 10, every 10th name is selected). What K actually equals depends on the size of the list and the desired sample size. In this study, alphabetized address labels of all 9-12 grade parents were obtained from the Yakima School District. The size of the list was 3087, and the desired sample size was 20 parents. Therefore, every 15th name was selected for inclusion in the study (3087 ÷ 200 = 15 or K = 15).

The relatively small number of advisory committee members in the entire population (n = 49) and the relative ease of retrieving address labels for these members allowed the entire population to be included in the study.

Design of the Questionnaire Instruments. With the populations and samples defined and the possible barriers to vocational education determined, questionnaires were developed to be administered to students, parents and local advisory committee members in the Yakima School District, regarding their perceptions of barriers to vocational education programs. Discussion of procedures and materials used to develop each questionnaire follows:

Student Questionnaire. The purpose of the student questionnaire was to elicit responses from students regarding their perceptions of barriers to vocational education in the Yakima School District. Questionnaire items were designed to address each of the twelve barriers identified from the review of the literature, as well as those suggestions submitted by district personnel as significant barriers, specific to the Yakima School District (i.e., lack of knowledge about the Yakima Valley Vocational Skills Center course offerings).

The schedule of the questionnaire began with items regarding general, demographic information about the student (i.e., high school attended, present grade, gender and ethnic classification). The ease with which a student could answer these preliminary questions served to better ensure their completion of the remainder of the questionnaire. The majority of the questionnaire consisted of questions designed to discover the students' perceptions of their own accessibility to vocational education within their school. To those questions which elicited negative responses (no versus yes), students were asked to proceed to the next question, and choose from a series of possible reasons or responses. An "other" response option was included to elicit responses not listed in the response column. To allow for student responses of possible barriers not addressed in either the literature and therefore, the questionnaire, the final question provided space for students to write in additional barriers which they perceived as prohibitive to enrollment in vocational education, or additional concerns which they may have had regarding participation in vocational education.

The student questionnaire was pretested and completed by faculty members and mailed to the Yakima District Vocational Director to yield data concerning instrument deficiencies as well as to identify any major problems in the instrument's construction. The subsequently revised instrument, along with a cover letter was then field tested with a small sample of students (n = 10), grades 10-12 from Pullman High School. This population, although not identical to the Yakima Valley population, provided comments and suggestions concerning directions, recording procedures and specific items which were, in the opinion of the WSU research team, typical for 10-12 grade students. Time constraints of the project also dictated use of a local pretest.

Lastly, proposed data tabulation and analysis procedures were applied to the pretest data. The principal investigator with assistance from the research team developed the computer program and set up the data base necessary to accommodate the quantity and type of data collected. The data from the entire instrument was frequency analyzed in total and by the following variables: 1) school, 2) grade, 3) gender, and 4) ethnicity. Two cross tabulations of the data were then done: 1) ethnicity by school and 2) gender by school. This provided the most comprehensive information regarding accessibility of student populations within the Yakima District. The system used to analyze data was CMS (Computer Management System), and SPSSX and was operated through the IBM main frame computer system at WSU. A computer account of three cylinders space was established through the Computer Center at WSU for use in entering, storage and analysis of data for the student questionnaire as well as data from the parent questionnaire.

The end product of these pretest procedures was a student questionnaire instrument (Appendix C) which had been carefully designed, revised, and was ready to be administered to the student population in the Yakima School District. Two thousand questionnaires were then duplicated at the University Printing Office at WSU.

Parent Questionnaire. The purpose of the parent questionnaire was to elicit responses from parents regarding their perceptions of barriers which limited or prohibited their son or daughter from participating in vocational education in the Yakima School District. As with the student questionnaire, items were designed to address the identified barriers to vocational education, and began with items regarding general demographic information about the sons/daughters of the parent answering the survey (i.e., the school which son/daughter attends and ethnic classification). The remainder of the questionnaire consisted of questions designed to discover the parents' perceptions of their son's/daughter's accessibility to vocational education and their interest in such programs. In developing the parent questionnaire, the majority of the items used in the student questionnaire were revised to solicit parent information about their sons/daughters. This allowed the results from both the student and parent survey to be more accurately compared, when analyzing the data collected. The response format was identical to the student questionnaire.

The parent questionnaire and cover letter was also pretested and completed by five WSU faculty members and mailed to the Yakima District Vocational Director for suggestions and clarifications of questionnaire instructions and general comment. The revised instrument (Appendix F), along with the pretest data was tabulated and analyzed by the research team at WSU for compatibility and ease of entry into the computer. The computer program, data entry, and analysis procedures were nearly identical to those used for the student questionnaire previously discussed. Two hundred fifty parent questionnaires were duplicated at a local duplicating service on campus at WSU.

Vocational Advisory Committee Members Questionnaire. The purpose of the advisory committee questionnaire was to elicit responses from vocational advisory committee members regarding the type, size, and occupational titles of jobs available within their firms, as well as current and future plans to hire vocational education students. Questionnaire items were designed to address each of these areas.

The questionnaire schedule began with items regarding general demographic information about the firm (i.e., type of company, size of company and types of jobs available). Following the general items, questions were designed to elicit responses regarding ways used to locate prospective employees and numbers and ethnicity of current employees of the firm. Questions regarding past employment of vocational program students, reasons for not hiring such students and future plans to hire vocational education students completed the questionnaire items.

The majority of the questionnaire was a forced choice format, with an other response category for each item, allowing additional information to be provided by the respondent.

The advisory committee questionnaire was pretested with three WSU faculty members, revised, and a cover letter developed for it. The WSU research team developed the computer program to analyze the subsequent data collected, using the CMS/SPSSX systems available through the IBM mainframe at WSU. Fifty advisory committee questionnaires were duplicated at the University Printing Office.

Data Collection Procedures

Student Data Collection Procedures. The student data was the first of the three populations to be collected. The on-site collection of student data regarding their perceptions of accessibility to vocational education is outlined in chronological order following.

The Vocational Director of the Yakima School District was contacted by telephone to inform him of tentative dates for the on-site administration of the student questionnaire. This was done approximately four weeks prior to the tentative visitation dates. This allowed time for the Vocational Director to contact the three high school principals and arrange for the most convenient date for them and their respective staffs. The final dates for the on-site administration of the student questionnaire were arranged to be carried out in three days as follows:

Day 1 Morning	Eisenhower High School
Day 1 Afternoon	Madison (Alternative) High School
Day 2 Morning	Davis High School
Day 2 Afternoon	Picked up questionnaires at Davis and reported to Vocational Director on results of data collection at schools.
Day 3 Morning	Met with Yakima Vocational Director and Assistant Director regarding plans for remainder of data collection (parents, vocational advisory committee members) and analysis of student data.

Each building principal then made arrangements to explain the purpose and procedures for administration of the questionnaires by each classroom teacher on the date scheduled. This was accomplished at a faculty meeting at each school.

With final dates in mind, the principal investigator of this study made arrangements (housing, food and transportation) for the three-day data collection visit in Yakima. Part of this preparation also included contacting the Vocational Director and obtaining the list of all current 10, 11, and 12 grade teachers at Davis and Eisenhower High Schools. Teacher instruction sheets (Appendix D) were then prepared for each teacher, indicating their name and instructions for administering the questionnaire to their students. Check off sheets (Appendix E) were also prepared to aid the principal investigator in ensuring that all questionnaires were completed and returned. Data collection at each school, because of differences in instructional, administrative and secretarial staff, was carried out in a slightly different manner, but with the same results. Details and specifics of each school follow.

Eisenhower High School was the first school designated for student data collection. Because this visitation was scheduled for the day after a no school holiday, a packet of 30 questionnaires and Teacher Instruction Sheet was prepared by the principal investigator prior to arrival at the school for each 10-12 grade teacher.

On the actual morning which the questionnaire was to be administered, the principal investigator arrived at the school at 6:45 a.m. and, after a brief meeting with the head secretary, placed the prepared packet of questionnaires in each teacher's mailbox. As the teachers arrived, they picked up their packets.

As mentioned in the teacher instruction sheet and at the faculty meeting, each 10-12 grade student was to complete a questionnaire during second period. Second period, at both of the regular high schools is the designated homeroom period and was ten minutes longer than the other class periods of the day. This allowed the questionnaire to be completed by students, with little, if any loss of instructional time for the teacher. Upon completion of the questionnaire, students returned the questionnaire to the teacher or his/her designate, who returned them to the main office. There, the principal investigator checked off the teacher's name as having completed/returned the questionnaires. Three teachers did not return their students' questionnaires during the allocated time period. These teachers, were then contacted, via intercom, by the head secretary and a student office assistant was sent to collect the questionnaires. Total on-site time spent at Eisenhower to administer, collect and check off surveys, by the principal investigator, was approximately 4-1/2 hours, and 1028 students completed questionnaires.

Because of the relatively small number of 10-12 grade students and the nature of the students enrolled, the principal, vice principal and counselor at Madison Alternative High School personally administered the questionnaire to each 10-12 grade student in attendance on the data collection day. Each administrator, after dividing all of the classrooms to be surveyed, took the questionnaire to the students, regardless of class hour, waited until the students were finished completing it and then went to the next classroom. This was continued until all students were surveyed and the completed questionnaires were then returned to the principal investigator. Sixty-six students completed questionnaires at Madison.

Davis High School was the last to be visited. The principal investigator contacted the principal on the afternoon of Day 1, after finishing data collection at both Eisenhower and Madison. It was suggested that the prepared packets of student questionnaires for Davis be brought to the school the afternoon of Day 1 and placed in the teachers' mailboxes after most had gone home for the day. With help from the secretarial staff, the packets were placed in the teachers' mailboxes and arrangements for the actual administration and collection of the questionnaires was discussed. The administration and secretarial staff felt it would be easier as well as more accurate if the head secretary was in charge of checking off returned questionnaires and initiating follow-up for teachers who did not return their students' questionnaires. Therefore, the principal investigator of this project was asked to arrive at the school at approximately 1:30 p.m. on Day 2 to simply pick up the completed questionnaires. At Davis High School 689 students completed questionnaires.

Upon return to WSU, the completed student questionnaires were sorted and checked for clarity and usability. Twenty-two questionnaires were judged by the principal investigator as not useable because of scribbling on the instrument and inadequate information, and were placed outside of the study. The cover letter was then removed from the remaining 1783 questionnaires and each was assigned an identification number which was written in red ink, on the upper right corner of the questionnaire.

Due to the quantity of data on the student questionnaire and the large number of questionnaires, a trained computer analyst graduate student was employed to input the student questionnaire data into the computer. The resulting analyses, however, were calculated by the project research team.

Parent/Vocational Advisory Committee Data Collection Procedures. Parent data, regarding their perceptions of their son's/daughter's accessibility to vocational education was collected using a mailed questionnaire. Advisory committee members were also surveyed by mail, regarding their perceptions and current practices as they relate to students in the special needs. The collection of data for both populations is outlined, in chronological order following.

Upon completion of the on-site student data collection (Day 3), a meeting was held with the Vocational and Assistant Vocational Director to discuss the data collection of parent and advisory committee members in this study. Sample size for both populations was determined at 200 and 49, respectively. The Assistant Vocational Director was responsible for checking with the District Head Administrators regarding permission to survey parents by mail. Once permission was granted, address labels for parents and advisory committee members were generated by the district vocational office and mailed to WSU. Alphabetized phone lists were also made available, for aid in follow-up activities.

The following supplies were ordered from the Central Stores at WSU for mailing questionnaires to the parents and advisory committee: 300 number 10 departmental envelopes for the outside mailer, 300 number 9 envelopes for the returned questionnaire, and 250-22 cent stamps for posting the return envelopes. Each questionnaire was numbered to correspond with the phone list of parents and advisory committee members. Parent surveys were designated by a number as well as either a D for Davis High School or and E for Eisenhower. Advisory Committee members were designated by a number which corresponded with the phone list as well as a letter "A" to distinguish them quickly from parent questionnaire respondents. A parent/advisory committee address label was placed on each outside envelope (imprinted with the departmental return address), and the designated number and letter was written on the lower left corner of the stamped return envelope. In this way, when questionnaires were returned to WSU, they could be easily sorted from other departmental mail and marked off the list as having responded and returned the questionnaire. In this way, too, a running tally could be kept as to the rate of return, for both parents and advisory committee members.

Section 3 - Development of Strategies to Minimize Attitudinal and Organizational Barriers to Vocational Education Programs in the Yakima School District

After preliminary data analysis was completed for all sections of the project, the project director, in consultation with the Vocational Director of the Yakima District, determined the types of strategies that the district wished to undertake to minimize and/or eliminate attitudinal and organizational barriers to vocational education. The following strategies were developed:

1. Presentation of a one day administrator/staff development seminar, on the findings and conclusions of this study. This included providing handouts, transparencies and charts to explain the information of the study.

2. During the seminar promoted dialogue and creativity amongst administrators/staff and developed, as a result, listing of specific methods to minimize barriers which could be undertaken both presently and during the following school year in the district.

3. Serve, as consultants, for the Yakima District with regards to this vocational accessibility study.

Because of the innovative nature of the Yakima School District, their commitment to vocational education and to special needs populations, they will develop additional strategies, such as teacher/counselor inservice training and methods to increase the accessibility of their programs at a later date. The WSU research team will serve as consultants and presentors for the district, as their needs arise.

(D) Results and Accomplishments of the Project

Vocational Education Student Enrollment Analysis

Background

An attempt was made to include, as much as possible, all of the 11th and 12th graders enrolled in Yakima high schools in the survey to study enrollment patterns for vocational education courses.

Transcripts of 1,184 students, enrolled in Davis and Eisenhower High Schools as sophomores and juniors during the spring of 1986, were examined. All courses classified as vocational education courses listed in students' transcripts were recorded. A total of 140 separate courses, including 17 courses offered at the Yakima Valley Vocational Skills Center, were identified as vocational education courses in the

Yakima School District. The 140 vocational courses were grouped into four categories: Business and Office Education (34 courses); Industrial Arts Education including Vocational Agriculture (57 courses); Home and Family Life Education (16 courses); and Skill Center Program (17 courses).

Demographic Description

The group (N = 1184) consisted of 55.1 percent from Eisenhower High School and 44.9 percent Davis High School. There were nearly equal numbers of 11th and 12th graders: 48.5 percent in the 11th grade and 51.5 percent in the 12th grade. Similarly, the ratio of males and females was about even: 51.9 percent male and 48.1 percent female. About 85.5 percent were white and the remaining 14.5 percent identified as non-white. Non-white students included Hispanic (7.9 percent), Asian (2.4 percent), Black (2.3 percent) and Native American (1.9 percent) students.

Eighty students (6.8 percent) were identified as Special Education students including: mentally retarded (3.3 percent), learning disabled (2.8 percent), health impaired (0.4 percent), behavior disabled (0.2 percent), and those who had sensory handicaps, i.e., hearing and visual handicaps, (0.1 percent).

Two and one half percent were identified as being limited in the English language (LEP), and 3.5 percent were identified as students from migrant labor background.

Vocational Course Enrollment

Among the 140 courses anticipated as vocational education courses that might have students enrolled, 17 courses were not found listed in the transcript of any of the 1,184 students studied. Thus the remaining 123 courses had at least one student showing each such course included in the transcripts.

Specific courses enrolled in by students are shown with enrollment frequencies and percentages in Tables 2 through 5.

Factors Associated with Enrollment Patterns

a. Factors Examined:

Enrollment patterns in vocational education courses were analyzed by examining the average numbers of vocational education courses the 1,184 students had enrolled in. The number of courses in each of the four major categories of vocational education courses taken by each student in 1) Business and Office Education, 2) Industrial Arts Education including vocational agriculture, 3) Home and Family Life

Table 2

Frequencies and Percentages of Student Enrollments in Vocational Education Courses (Business and Office Education Area)

Course	Enrollments	
	f	%
Acct 1A	146	12.3
Acct 1B	115	9.7
Acct 1C	30	2.5
Business Law	33	2.8
Computer Literacy	26	2.2
Keyboard 1A	788	66.6
Keyboard 1B	453	38.3
Keyboard 1C	158	13.3
Office Machine	241	20.4
Office Simul	3	.3
Speedwriting 1A	59	5.0
Speedwriting 1B	12	1.0
Machine Transcription	22	1.9
Office Procedures	24	2.0
General Business	49	4.1
Intro. Sales	34	2.9
Advanced Distrib	61	5.2
Career Explor	2	0.2
Market & Distrib	0	
On Job Train	62	5.2
Student Store	2	0.2
Work Study	0	
Keyboard 2A	33	2.8
Keyboard 2B	8	0.7
Acct 2A	7	0.6
Acct 2B	0	
Acct 2C	0	
Business Math	60	5.1
Record 1A	36	3.0
Record 1B	4	0.3
Wordprocess	17	1.4
Comput Appl	71	6.0
Office Practice 1A	12	1.0
Office Practice 1B		
Secretarial Office 1A	7	0.6
Secretarial Office 1B	4	0.3
Keyboard 2AA	47	4.0
Keyboard 2BB	25	2.1
Cashier Register	0	
Intro Sales	0	
Retail Sales	0	
Start Own Business	0	
Retail Merchandi	0	

Table 2 (Continued)

Frequencies and Percentages of Student Enrollments in Vocational Education Courses (Business and Office Education Area)

Course	Enrollments	
	f	%
Diversif Occupation	28	2.4
Adv Distrib Ed 2A	0	
Adv Distrib Ed 2B	0	
Beg Compt Program	0	
Adv Compt Program	0	
Senior Distrib Ed 1	0	
Senior Distrib Ed 2	0	
Senior Distrib Ed 3	0	

Table 3

Frequencies and Percentages of Student Enrollments in Vocational Education Courses (Industrial Arts Education Including Vocational Agriculture)

Course	Enrollments	
	f	%
Beg Architech	54	4.6
Adv Architech	36	3.0
Adv Draft	34	2.9
Voc Draft 1A	134	11.3
Voc Draft 1B	74	6.3
Voc Draft 1C	43	3.6
Electricity	1	0.1
Welding 1A	49	4.1
Welding 1B	1	0.1
Metal Shop 1A	46	3.9
Metal Shop 1B	2	0.2
Industrial Mechanics	0	
Know Your Car	9	0.8
Animal Science 1A	25	2.1
Animal Science 1B	41	3.5
Animal Science 1C	20	1.7
Metal Fab 1A	6	0.5
Metal Fab 1B	0	

Table 3 (Continued)

Frequencies and Percentages of Student Enrollments in Vocational Education Courses (Industrial Arts Education Including Vocational Agriculture)

Course	Enrollments	
	f	%
Metal Fab 1C	0	
Beg Ag Shop	18	1.5
Agronomy	9	0.8
Adv Ag Science	16	1.4
Wood Work 1B	14	1.2
Wood Work 1C	4	0.3
Metal Related	43	3.6
Beg Welding	64	5.4
Intermed Welding	1	0.1
Adv Welding	3	0.3
Basic Electricity 1	64	5.4
Basic Electricity 2	29	2.4
Basic Electricity 3	15	1.3
Voc electricity	7	0.6
Fundem Draft 1A	39	3.3
Applied Draft	2	0.2
Applied Draft 3	0	
Graph Communic 1	62	5.2
Graph Communic 2	24	2.0
Graph Communic 3	11	0.9
Graph Produc	6	0.5
Beg Auto Maint	91	7.7
Beg Auto Maint Girls	34	2.9
Service Station 1	5	0.4
Service Station 2	1	0.1
Wood 1	64	5.4
Adv Wood	77	6.5
Construction Related	35	3.0
Mechanics Unlimited	14	1.2
Wood Work 1A	5	0.4
Adv Machine Draft	1	0.1
Beg Ag Weld	0	
Adv Ag Shop	0	
Adv Auto Mainten	0	
Adv Electronics	0	

Table 4

Frequencies and Percentages of Student Enrollments in Vocational Education Courses (Home and Family Life Education)

Course	Enrollments	
	f	%
Family Living	22	1.9
Family Leadership	0	
Dollars and Sense	91	7.7
Contemp Living 1A	27	2.3
Contemp Living 1B	3	0.3
Adv Foods	0	
Adv Sewing	0	
Interior Design	50	4.2
Creative Clothing	39	3.3
Parenting Skill	22	1.9
Cooking for Singles	97	8.2
Creative Cooking	0	
Expecting Child	28	2.4
Ethnic Cooking	202	22.1
Sew for Fun	77	6.5

Table 5

Frequencies and Percentages of Student Enrollments in Vocational Education Courses (Vocational Skills Center)

Course	Enrollments	
	f	%
Comput Program	14	1.2
Cashier/Checker	30	2.5
Automechanic	23	1.9
Medical Careers	14	1.2
Electronics	8	0.7
Legal Medical Secrt	11	0.9
Beauty School	14	1.2
Dental Assist	10	0.8
Building Trades	11	0.9
Radiobroadcast	22	1.9
Aviation Mechanic	11	0.9
Graph Communic	6	0.5
Auto Body Repair	16	1.4
Voc Print	0	
Small Engines	0	
Welding	0	

Education, and 4) the Yakima Valley Vocational Skills Center, as well as the total number of vocational education courses were computed for each individual student.

Sex, race, special education status, migrant education status, school lunch eligibility, and limited English ability were considered to be potential factors for differential rates of access to vocational education courses, therefore, used as factors for statistical comparisons. In addition, student's school and grade level were used as factors for statistical analysis.

b. School and Grade Level:

For the entire group of 1,184 students included in this enrollment analysis, the average number of courses students had taken in vocational education was slightly over four courses, or 4.19 courses per student. The average number of courses taken in vocational education varied among the four categories of vocational education courses, ranging from the highest of 2.26 courses per student in Business and Office Education to the lowest of 0.18 courses taken at the Vocational Skills Center. Students at Davis High School enrolled in slightly more courses than those at Eisenhower High School. As expected 12th graders had enrolled in more vocational education courses than 11th graders. The average numbers of courses taken by students analyzed according to school, grade, and categories of vocational education courses are displayed in Table 6-A through 6-E.

Several trends were noted. These trends are summarized below:

1. A considerable number of courses in vocational education were taken by students, with averages being 5.22 courses for 12th graders and 3.08 for 11th graders.

2. Students enrolled in Business and Office courses most frequently, with an average of 2.26 courses for the total group. They were not so heavily enrolled in other areas, and enrolled least frequently in courses offered at the Skills Center.

3. Students at Davis High School tended to take more vocational education courses earlier in the program than students at Eisenhower High School.

4. Students at Davis tended to take slightly more courses in Industrial Arts Education including vocational agriculture, Home and Family Education, and at the Vocational Skills Center than those at Eisenhower.

Table 6-A

Average Numbers of Vocational Education Courses in Business and Office Education Taken by Students According to School and Grade

Classifications	N	Ave.
Davis High School	532	2.20
11th Grade	257	1.86
12th Grade	275	2.53
Eisenhower High School	652	2.31
11th Grade	317	1.66
12th Grade	335	2.93
Total Group	1,184	2.26
11th Grade	574	1.75
12th Grade	610	2.75

Table 6-B

Average Numbers of Vocational Education Courses in Industrial Education (Including Vocational Agriculture) Taken by Students According to School and Grade

Classifications	N	Ave.
Davis High School	532	1.31
11th Grade	257	1.33
12th Grade	275	1.29
Eisenhower High School	652	1.01
11th Grade	317	0.52
12th Grade	335	1.47
Total Group	1,184	1.14
11th Grade	574	0.88
12th Grade	610	1.39

Table 6-C

Average Numbers of Vocational Education Courses in Home and Family Life Education Taken by Students According to School and Grade

Classifications	N	Ave.
Davis High School	532	0.67
11th Grade	257	0.42
12th Grade	275	0.91
Eisenhower High School	652	0.55
11th Grade	317	0.29
12th Grade	335	0.80
Total Group	1,184	0.61
11th Grade	574	0.35
12th Grade	610	0.85

Table 6-D

Average Numbers of Vocational Education Courses Taken by Students at Yakima Valley Vocational Skills Center According to School and Grade

Classifications	N	Ave.
Davis High School	532	0.20
11th Grade	257	0.15
12th Grade	275	0.25
Eisenhower High School	652	0.16
11th Grade	317	0.06
12th Grade	335	0.24
Total Group	1,184	0.18
11th Grade	574	0.10
12th Grade	610	0.25

Table 6-E

Average Numbers of All Vocational Education Courses Taken by Students According to School and Grade

Classifications	N	Ave.
Davis High School	532	4.38
11th Grade	257	3.75
12th Grade	275	4.97
Eisenhower High School	652	4.03
11th Grade	317	2.54
12th Grade	335	5.45
Total Group	1,184	4.19
11th Grade	574	3.08
12th Grade	610	5.22

c. Sex:

Enrollment patterns according to student's sex are indicated in Table 7. Several trends of sex-related differential enrollment patterns were noted, and are summarized below:

1. Generally speaking, male and female students take about the same number of vocational education courses, although there is a somewhat systematic difference between them as to what vocational education courses they take.

2. Female students take nearly twice as many Business and Office Education courses as male students, with the female average being 3.08 as compared with the male average of 1.51.

3. Female students take fewer courses than male students in Industrial Arts Education including vocational agriculture, with a ratio of about one to five (0.34 for female and 1.88 for male). Only one in three female students takes a course in this area whereas an average male student takes almost two courses.

4. Female and male students enroll in about the same numbers of courses in Home and Family Life Education or at the Vocational Skills Center.

d. Race:

Although the original data indicated students' racial identifications as white, Asian, Black, Hispanic, or Native American, for the purpose of statistical analysis all minority students were combined together as non-white. There were 172 non-white and 1,012 white students included in the analysis. Table 8 indicates the numbers of courses taken by white and non-white students in various categories of vocational education courses. Enrollment trends concerning race may be summarized as follows:

1. White and non-white students enrolled in approximately equal numbers of vocational education courses in general and in most categories of vocational education courses.

2. Non-white students tended to have a slightly greater average course load in Business and Office Education when compared with white students (2.50 vs. 2.22).

3. White students were enrolled in slightly more courses in Industrial Arts and Vocational Agriculture when compared with non-white students (1.17 vs. 0.95).

Table 7

Average Numbers of Vocational Education Courses Taken by Students According to Sex and Vocational Education Categories (N = 1,184)

Vocational Education Category Groups	N	Ave.
Business & Office Ed		
Males	614	1.51
Females	570	3.08
TOTAL	1,184	2.26
Industrial Arts Including Voc Agric		
Males	614	1.88
Females	570	0.34
TOTAL	1,184	1.14
Home & Family Life		
Males	614	0.52
Females	570	0.70
TOTAL	1,184	0.61
Vocational Skills Center		
Males	614	0.19
Females	570	0.16
TOTAL	1,184	0.18
All Vocational Education Courses		
Males	614	4.10
Females	570	4.28
TOTAL	1,184	4.19

Table 8

Average Numbers of Courses Taken by White and Non-white Students in Various Categories of Vocational Education

Category and Group	N	Ave.
Business & Office Ed		
Non-white	172	2.50
white	1,012	2.22
TOTAL	1,184	2.26
Industrial Arts & Voc Ag		
Non-white	172	0.95
White	1,012	1.17
TOTAL	1,184	1.14
Home & Family Life		
Non-white	172	0.59
White	1,012	0.61
TOTAL	1,184	0.61
Yakima Valley Vocational Skill Center		
Non-white	172	0.20
White	1,012	0.17
TOTAL	1,184	0.18
All Vocational Education Courses		
Non-white	172	4.24
White	1,012	4.18
TOTAL	1,184	4.19

e. School Lunch Eligibility:

Students who were described as eligible for school lunch program were regarded as being under some economic disadvantage, therefore it was used in this study as a variable representing the economic factor. A total of 206 students were identified as eligible for the school lunch program. Comparisons were made between those who were eligible for school lunch and other students. Results are shown in Table 9.

Comparisons of those eligible for school lunch and others indicate the following:

1. There is a very small, but noticeable, difference between the two groups favoring students who are not eligible for school lunch with respect to the average number of vocational education courses (4.23 vs. 4.00).

2. The small difference is likely due to the difference of 0.30 favoring non-eligible students in the area of Business and Office Education.

Further analysis by combining factors of race and school lunch eligibility revealed some interesting phenomena. Among white students those who were eligible for school lunch had a lower average of vocational course loads than others who were not eligible, whereas this was not the case among non-white students. This peculiarity was observed in the area of Business and Office Education, where among white students the averages were 1.70 for those eligible and 3.30 for those ineligible while among non-white students the averages were almost identical (2.53 vs. 2.50). A similar trend was also observed for the averages for all vocational education courses, where among white students the comparison was 3.85 vs. 4.23 favoring those eligible for school lunch whereas among non-white students there was hardly any difference between those eligible and ineligible (4.25 vs. 4.23).

On the other hand a similar phenomenon, but in the opposite direction, peculiar only among white students, was observed again with respect to course loads in the area of Industrial Arts and Vocational Agriculture, where the average course load was slightly greater for those eligible for school lunch (1.39 vs. 1.14).

Thus the following may be added to the list of trends associated with the factor of school lunch eligibility.

1. School lunch eligibility, assumed as an indicator of economic disadvantage, is associated with smaller course enrollments in overall vocational education and Business and Office Education among white students, but not among non-white students.

Table 9

Average Numbers of Courses Taken by Students Compared Between Those Eligible for School Lunch and Others According to Various Categories of Vocational Education

Category and Group	N	Ave.
Business & Office Ed		
Eligible for School Lunch	206	2.01
Others	978	2.32
TOTAL	1,184	2.26
Industrial Arts & Voc Ag		
Eligible for School Lunch	206	1.22
Others	978	1.12
TOTAL	1,184	1.14
Home & Family Life		
Eligible for School Lunch	206	0.58
Others	978	0.61
TOTAL	1,184	0.61
Yakima Valley Vocational Skill Center		
Eligible for School Lunch	206	0.19
Others	978	0.17
TOTAL	1,184	0.18
All Vocational Education Courses		
Eligible for School Lunch	206	4.00
Others	978	4.23
TOTAL	1,184	4.19

2. It is, however, associated with a greater course enrollment in the Industrial Arts Education and Vocational Agriculture among white students, but again not among non-white students.

f. Migrant Education Status:

Comparisons were made between students with migrant education status and others. A total of 41 students were identified as migrant students. Table 10 describes the results of analyses concerning migrant education status.

Comparisons of migrant and non-migrant students resulted in the following observations:

1. When all vocational education courses are considered together, migrant and non-migrant students seem to take about equal numbers of courses.

2. There are some observable differences in the types of vocational education courses migrant and non-migrant students enrolled in.

3. Migrant students took slightly more courses in Business and Office Education as compared with non-migrant students (2.68 vs. 2.25).

4. Compared with non-migrant students, migrant students enrolled in slightly fewer courses in Industrial Arts and Vocational Agriculture (0.76 vs. 1.15).

g. Limited English Ability:

The factor of limited English ability in relationship to the number of vocational education courses students would take was studied by comparing enrollment patterns between the 30 students identified as limited English students and the 1,154 students who were not limited in English ability. First, the factor was examined independently by itself, and later, it was examined in conjunction with the factor of migrant education status. Table 11 displays the results of the analysis treating limited English ability as a separate factor.

Limited English ability was found to be associated with a slightly larger vocational education course load in general. The following characteristics were noted:

1. The average number of vocational education courses taken by limited English students was slightly greater (4.83 vs. 4.17) than that for other students.

2. Limited English students enrolled in a noticeably greater number of courses in the Business and Office Education area when compared with other students (2.73 vs. 2.25).

Table 10

Average Numbers of Courses Taken by Migrant and Non-migrant Students According to Various Categories of Vocational Education

Category and Group	N	Ave.
Business & Office Ed		
Migrant Students	41	2.68
Non-migrant Students	1,103	2.25
Total Group	1,184	2.26
Industrial Arts & Voc Ag		
Migrant Students	41	0.76
Non-migrant Students	1,103	1.15
Total Group	1,184	1.14
Home & Family Life Education		
Migrant Students	41	0.66
Non-migrant Students	1,103	0.60
Total Group	1,184	0.61
Vocational Skills Center		
Migrant Students	41	0.12
Non-migrant Students	1,103	0.18
Total Group	1,184	0.18
All Vocational Education Courses		
Migrant Students	41	4.22
Non-migrant Students	1,103	4.18
Total Group	1,184	4.19

Support of Counselors (Table 23)

Both non-white and white respondents indicated by responses of over 68 percent, that counselors do not encourage participation in vocational education courses.

Males indicated a higher percentage of responses than females, indicating also that counselors do not encourage participation in vocational education courses. The total percentage of responses for both groups was over 65 percent.

Support of Parent(s) Toward Involvement in Vocational Education (Table 24)

Over one third of both non-white and white respondents indicated that their parents encouraged their participation in vocational education. However, 47 percent of non-white respondents and nearly 40 percent of white respondents indicated that their parents did not know enough about vocational education to encourage them to participate. A very small percentage of both white and non-white respondents indicated their parents did not want them to participate in vocational education, with non-white respondents showing a slightly higher response rate.

Over one third of both females and males indicated that their parents encouraged their participation in vocational education. However, 43 percent of males and nearly 40 percent of females indicated their parents did not know enough about vocational education to encourage their participation. As with the responses by race, a very small percentage of both females and males indicated their parents did not want them to participate in vocational education, with males showing a slightly higher response rate.

Importance of Opinions of Friends and Teachers in Taking Vocational Classes (Table 25)

A very small percentage of both non-white and white respondents indicated that the opinions of friends were extremely important in their decisions to enroll in vocational education classes, with non-white respondents indicating a slightly higher percentage of response. Friend's opinions were important in the decision of more non-white respondents than white respondents. Both groups indicated a high percentage of response to friends being only somewhat important and/or not important at all in their decision to enroll in vocational classes.

With regards to teachers' opinions, a much higher percentage of non-white respondents indicated that teachers' opinions were extremely important in their decision to enroll in vocational education classes. Teacher's opinions were important in the decisions of more non-white respondents than white respondents, and somewhat important in the decisions of more white respondents than non-white respondents. However, both groups indicated a high percentage of response to teachers' opinions being very important or somewhat important. A higher

When the factor of limited English ability was combined with that of migrant education status, approximately a third of the migrant students (34.0 percent) were found to be classified as limited English students whereas among non-migrant students there were only 1.4 percent, who were so classified. Therefore, it is apparent that limited English ability is closely linked to migrant student status. Limited English ability and its relation to the pattern of vocational education course enrollment among migrant students and among non-migrant students was also examined. Results are shown in Table 12. Inspection of the table reveals an apparent distinction between migrant and non-migrant student populations; among non-migrant students, limited English students carried one and a half more vocational education courses per student compared with students who are not limited English (5.63 vs. 4.16). Among migrant students the trend was in the opposite direction indicated that limited English students carried about one half less vocational education courses (3.93 vs. 4.37). The following findings should be added to the list of characteristics associated with the factor of limited English ability presented earlier:

1. The factor of limited English ability operates differently in migrant and non-migrant student populations. Among migrant students limited English students tend to take slightly fewer vocational education courses in general (3.93 vs. 4.37) and more specifically in the area of Business and Office Education (2.36 vs. 2.85). Among non-migrant students those with limited English ability take considerably more vocational education courses in general (5.63 vs. 4.16) and especially in the Business and Office Education area (3.06 vs. 2.24)

h. Special Education Status:

Altogether there were 80 students, 6.8 percent of the population, identified as special education students among the 1,184 students included in the study. These special education students were diverse with regard to classification categories as special students: 3.3 percent mentally retarded, 2.8 percent learning disabled, 0.4 percent health impaired, 0.2 percent behaviorally disabled, and 0.1 percent with visual and/or hearing impairments.

Considering the extremely small group sizes that are likely to result by retaining the original classifications of special education categories, it was decided to treat all special education students together as a single group despite limitations which are inevitable in such a grouping procedure. Results of comparisons between special education students and other students are presented in Table 13.

Generally speaking, special education students enrolled in considerably fewer vocational education courses than other students. Their enrollment pattern can be summarized as follows:

1. An average special education student enrolled in more than two courses fewer than the comparison group (2.18 vs. 4.33).

Table 12

Average Numbers of Courses Taken by Limited English Students and Other Students Among Migrant and Non-migrant Students According to Various Categories of Vocational Education

Category and Group	N	Ave.
Business & Office Ed		
Migrant Students		
Limited English Students	14	2.36
Other Students	27	2.85
Total Group	41	2.68
Non-migrant Students		
Limited English Students	16	3.06
Other Students	1,127	2.24
Total Group	1,143	2.25
Industrial Arts & Voc Ag		
Migrant Students		
Limited English Students	14	0.93
Other Students	27	0.67
Total Group	41	0.76
Non-migrant Students		
Limited English Students	16	1.44
Other Students	1,127	1.15
Total Group	1,143	1.15
Home & Family Life Education		
Migrant Students		
Limited English Students	14	0.64
Other Students	27	0.67
Total Group	41	0.66
Non-migrant Students		
Limited English Students	16	1.00
Other Students	1,127	0.60
Total Group	1,143	0.60

Table 12 (Continued)

Average Numbers of Courses Taken by Limited English Students and Other Students Among Migrant and Non-migrant Students According to Various Categories of Vocational Education

Category and Group	N	Ave.
Vocational Skills Center		
Migrant Students		
Limited English Students	14	0.00
Other Students	27	0.19
Total Group	41	0.12
Non-migrant Students		
Limited English Students	16	0.13
Other Students	1,127	0.18
Total Group	1,143	0.18
All Vocational Education Courses		
Migrant Students		
Limited English Students	14	3.93
Other Students	27	4.37
Total Group	41	4.22
Non-migrant Students		
Limited English Students	16	5.63
Other Students	1,127	4.16
Total Group	1,143	4.18

Table 13

Average Numbers of Courses Taken by Special Education Students and Other Students According to Various Categories of Vocational Education

Category and Group	N	Ave.
Business & Office Ed		
Special Education Students	80	0.68
Other Students	1,104	2.38
Total Group	1,184	2.40
Industrial Arts & Voc Agriculture		
Special Education Students	80	0.93
Other Students	1,104	1.16
Total Group	1,184	1.14
Home & Family Life Education		
Special Education Students	80	0.44
Other Students	1,104	0.62
Total Group	1,184	0.61
Vocational Skills Center		
Special Education Students	80	0.14
Other Students	1,104	0.18
Total Group	1,184	0.18
All Vocational Education Courses		
Special Education Students	80	2.18
Other Students	1,104	4.33
Total Group	1,184	4.19

2. While in all areas of vocational education special education students tended to take fewer courses, in the Business and Office Education field this trend was especially acute; special education students' average course load was less than one course per student (0.68) compared with that for the control group being more than two courses per student (2.38).

Findings derived from the vocational education student enrollment analysis are summarized below:

1. An average 11th grader enrolled in approximately three vocational education courses, and an average 12th grader approximately five courses.

2. Students enrolled most frequently in Business and Office Education courses (with an average of almost three courses per student).

3. Students at Davis High School tended to start enrolling in vocational education courses earlier and to enroll in slightly more vocational education courses than those at Eisenhower High School.

4. Male and female students enrolled in approximately the same number of vocational education courses.

5. In comparison with male students, female students tended to concentrate on Business and Office Education courses, and not enroll in the Industrial Arts Education and Vocational Agriculture courses.

6. White and non-white students enrolled in approximately equal numbers of vocational education courses.

7. Compared with white students, non-white students tended to take slightly more courses from the Business and Office Education area, and take slightly less course in the Industrial Arts Education and Vocational Agriculture area.

8. When compared with students who are ineligible for school lunch program, those eligible took slightly more vocational education courses, especially in the area of Business and Office Education.

9. Among non-white students there were no recognizable differences in vocational education enrollment patterns between those eligible for school lunch and others who are not.

10. Among white students those eligible for school lunch tended to take more courses in the Industrial Arts Education and Vocational Agriculture area and fewer courses in the Business and Office Education area.

11. Migrant and non-migrant students tended to take about equal numbers of vocational education courses.

12. Compared with non-migrant students, migrant students tended to take slightly more Business and Office Education courses, and take slightly fewer courses in the Industrial Arts and Vocational Agriculture area.

13. Limited English students enrolled in slightly more vocational education courses, especially in the area of Business and Office Education.

14. Among migrant students, however, limited English students tended to enroll in fewer vocational education courses, especially in the Business and Office Education area, than those limited in English.

15. In general those classified as special education students enrolled in fewer vocational education courses, especially in the Business and Office Education area.

Student Data Analysis of Barriers to Vocational Education

The student questionnaire data was tabulated and the summary of findings presented, with emphasis on the special needs groups outlined in the original proposal. All data, in both the discussion and tables, was analyzed by race and by gender of the respondents.

Race and Gender of Respondents by School (Table 14)

There were significantly larger numbers of ethnic (non-white) minority students at Davis than Eisenhower High Schools. Whites also outnumber non-whites at the Alternative School.

The gender of the respondents were nearly equal in proportions to males and females at all three school.

Grade of Respondents (Table 15)

There were found to be more 10th grade respondents than either 11th or 12th grade with 12th grade respondents being the smallest respondent

Table 14

Race and Gender by School of Respondents

	Davis	Eisenhower	Alternative	Row total
Race				
Non-White	220.0	93.0	17.0	330.0
	66.7	28.2	5.2	18.5
White	469.0	935.0	49.0	1453.0
	32.3	64.3	3.4	81.5
Total	689.0	1028.0	66.0	1783.0
	38.6	57.7	3.7	100.0
Gender				
Female	340.0	526.0	35.0	901.0
	37.7	58.8	3.9	50.6
Male	348.0	500.0	31.0	879.0
	39.6	56.9	3.5	49.4
Total	688.0	1026.0	66.0	1780.0
	38.7	57.6	3.7	100.0

Table 15

Grade Levels of Respondents

	10th grade	11th grade	12th grade	Row total
Race				
Non-White	137.0	101.0	91.0	329.0
	41.6	30.7	27.7	18.5
White	522.0	487.0	439.0	1448.0
	36.0	33.6	30.3	81.5
Total	659.0	488.0	530.0	1777.0
	37.1	33.1	29.8	100.0
Gender				
Female	321.0	291.0	285.0	897.0
	35.8	32.4	31.8	50.6
Male	337.0	295.0	245.0	877.0
	38.4	33.6	27.9	49.4
Total	658.0	586.0	530.0	1774.0
	37.1	33.0	29.9	100.0

group. By racial groups, whites were the majority respondents in all groups, outnumbering non-whites by a near four to one margin in each grade.

In each grade level, the numbers of males and female respondents were nearly equally distributed.

Plans After High School (Table 16)

When asked to indicate their plans upon completion of high school, over one half of the white respondents indicated plans to attend a four year university. A somewhat smaller percentage of non-white respondents indicated university plans. Plans to attend vocational technical institutes, community colleges, private trade schools and hold a job were found to be near equal proportionately between whites and non-white response groups. The military attracted a higher percentage of responses from the non-white response group as well as a higher percentage of undecided respondents. Plans for marriage were indicated more often in the white than non-white respondent groups.

Female and male respondents indicated near equal plans to attend a four year university. A substantially higher percentage of males indicated plans to attend vocational technical institutes and private trade schools. Conversely, a much higher percentage of females indicated plans to attend community college, to work, and to be married. The military was indicated nearly four times as often by males. Near equal groups were undecided about their plans after high school.

Career Guidance as a Barrier to Vocational Education (Table 17)

With regards to perceptions of career guidance, over one half of the respondents indicated they had not received enough career guidance to make a decision to enroll in vocational education classes. This figure was slightly higher for non-white respondents. Nearly one third of both white and non-white respondents indicated that they would like the counselors to explain vocational education to them. Providing open houses or displays although indicated in slightly higher percentages for non-white respondents, with personal invitation by the vocational teacher with the least responses. More than ten percent of the non-white respondents and slightly over 15 percent of the white respondents indicated that they would not be interested in vocational education even with guidance.

Over 50 percent of both male and female respondents indicated they'd not received enough career guidance to make a decision to enroll in vocational education. Over 30 percent of the females and 25 percent of the males indicated that vocational education should be explained by the counselors. Providing open houses and displays was indicated by slightly more females than males and, conversely personal invitation by the vocational teacher was indicated slightly more often by male respondents. Sixteen percent and 13 percent of the males and females responded, respectively, would not be interested, even with additional career guidance.

Table 16

Plans After High School

	University	Voc. tech. institute	Comm. college	Private trade school	Military	Work	Marriage	Undecided	Other
Race									
Non-white	138.0	36.0	71.0	19.0	54.0	94.0	34.0	53.0	24.0
	41.8	10.9	21.5	5.8	16.4	28.5	10.3	16.1	7.3
White	746.0	141.0	333.0	83.0	199.0	419.0	203.0	183.0	73.0
	51.4	9.7	22.9	5.7	13.7	28.9	14.0	12.6	5.0
Total	884.0	177.0	404.0	102.0	253.0	513.0	237.0	236.0	97.0
	49.6	9.7	22.9	5.7	13.7	28.9	14.0	12.6	5.4
Gender									
Female	449.0	63.0	249.0	40.0	53.0	280.0	149.0	124.0	53.0
	49.8	7.0	27.6	4.4	5.9	31.1	16.5	13.5	5.9
Male	433.0	113.0	154.0	61.0	198.0	233.0	88.0	111.0	44.0
	49.4	12.9	17.6	7.0	22.6	26.6	10.0	12.7	5.0
Total	882.0	176.0	403.0	101.0	251.0	513.0	237.0	235.0	97.0
	49.6	9.9	22.7	5.7	14.1	28.9	13.3	13.2	5.5

Table 17

Career Guidance as Barrier

	Enough career guidance	Not enough career guidance	Would not be interested even with guidance	Should have counselors explain voc ed to me	Should provide open house house or displays	Need Personal invite by voc. teacher	Other
Race							
Non-white	140.0	185.0	36.0	109.0	55.0	43.0	11.0
	43.1	56.9	11.1	33.6	17.0	13.3	3.4
White	685.0	745.0	221.0	383.0	199.0	112.0	32.0
	47.9	52.1	15.6	27.1	14.1	7.9	2.3
Total	825.0	930.0	257.0	492.0	254.0	155.0	43.0
	47.0	53.0	14.8	28.3	14.6	8.9	2.5
Gender							
Female	410.0	476.0	119.0	276.0	136.0	73.0	22.0
	46.3	53.7	13.5	31.4	15.5	8.3	2.5
Male	415.0	451.0	138.0	215.0	115.0	81.0	21.0
	47.9	52.1	16.1	25.1	13.4	9.5	2.5
Total	825.0	927.0	257.0	491.0	251.0	154.0	43.0
	47.1	52.9	14.8	28.3	14.5	8.9	2.5

Yakima Valley Vocational Skills Center (Table 18)

Nearly all respondents, both white and non-white, indicated they'd heard of the YVVSC. Over 35 percent of the white respondents indicated they'd be willing to go to the YVVSC if there were classes of interest to them, while 40 percent of the non-white respondents indicated their willingness to attend YVVSC. Near equal percentages of white and non-white respondents indicated they may be willing to attend YVVSC. A somewhat higher percentage of whites than non-whites indicated they would be unwilling to attend YVVSC.

As found when analyzing the ethnic classifications nearly all males and females had heard of the YVVSC. A slightly higher percentage of females than males would be willing to attend the YVVSC, near equal males and females indicated they might be willing to go, and a higher percentage of males than females indicated they would not be willing to attend the YVVSC.

Barriers to Enrollment at YVVSC (Table 19)

A small percentage of non-whites than whites indicated no classes of interest as a barrier to vocational education. Nearly 20 percent of both groups indicated that, 1) they were not adequately informed about the programs, and 2) there were no courses available for 10th graders at the YVVSC. Most significant, over 40 percent of white and over 35 percent of non-white respondents indicated lack of time in their schedules to take classes at the YVVSC as a barrier to their enrollment. Friends attending the YVVSC and the distance to the YVVSC were indicated by very small percentages of both groups.

Nearly one fourth of both males and females indicated there were no classes of interest at the YVVSC. A higher percentage of females indicated that they were not informed about the programs while and equal percentage of females and males indicated no 10th grade enrollment as a barrier to YVVSC programs. The barrier indicated by the highest percentage of responses by both groups was the lack of time in the schedule to attend the YVVSC. Almost one half of the females and near 40 percent of the males indicated the lack of time as a barrier to their participation at the YVVSC.

Additional Vocational Classes Taken Beyond Graduation Requirement (Table 20)

Twenty seven percent of both non-white and white respondents indicated they had taken vocational classes beyond the requirement for graduation. Nearly 12 percent of both groups of respondents are currently enrolled in vocational classes. Approximately 65 percent of both groups also indicated they'd not taken any vocational classes beyond the graduation requirement, although 41 percent of respondents in both groups also indicated their plans to enroll in vocational education classes before graduation. Non-white respondents indicated they were

Table 18

Yakima Valley Vocational Skills Center by Race and Gender

	Have heard of YVVSC	Have not heard of YVVSC	Willing to go to YVVSC	May be willing to go to YVVSC	Not willing to go to YVVSC
Race					
Non-White	277.0	47.0	132.0	153.0	43.0
	85.5	14.5	40.2	46.6	13.1
White	1323.0	112.0	524.0	689.0	228.0
	92.2	7.8	36.4	47.8	15.8
Total	1600.0	159.0	656.0	842.0	271.0
	91.0	9.0	37.1	47.6	15.3
Gender					
Female	810.0	79.0	346.0	434.0	115.0
	91.1	8.9	38.7	48.5	12.8
Male	787.0	80.0	308.0	407.0	156.0
	90.8	9.2	35.4	46.7	17.9
Total	1597.0	159.0	654.0	841.0	271.0
	90.9	9.1	37.0	47.6	15.3

Table 19

Barriers to Enrollment at YVVSC

	No classes of interest	No friends attend YVVSC	Too far to travel	Not informed about programs	No 10th grade enrollment	Cannot fit classes in schedule	Other
Race							
Non-white	56.0	20.0	18.0	74.0	72.0	116.0	34.0
	17.1	6.1	5.5	22.6	22.0	35.5	10.4
White	343.0	100.0	67.0	282.0	288.0	620.0	178.0
	23.9	7.0	4.7	19.6	20.0	43.1	12.4
Total	399.0	120.0	85.0	356.0	360.0	736.0	212.0
	22.6	6.8	4.8	20.2	20.4	41.7	12.0
Gender							
Female	200.0	46.0	30.0	200.0	182.0	400.0	113.0
	22.4	5.2	3.4	22.4	20.4	44.8	12.7
Male	199.0	74.0	55.0	155.0	177.0	335.0	99.0
	22.9	8.5	6.3	17.9	20.4	38.6	11.4
Total	399.0	120.0	85.0	355.0	359.0	735.0	212.0
	22.7	6.8	4.8	20.2	20.4	41.7	12.0

Table 20

Additional Vocational Classes Taken Beyond Graduation Requirement

	Taken classes beyond grad. requirements	Currently Enrolled	Not taken Classes beyond requirement	Plan to enroll before graduation	Undecided	Do not plan to enroll before graduation
Race						
Non-white	87.0	38.0	210.0	135.0	130.0	63.0
	27.2	11.9	65.6	41.2	39.6	19.2
White	394.0	176.0	944.0	606.0	527.0	314.0
	27.6	12.3	66.1	41.9	36.4	21.7
Total	481.0	214.0	1154.0	741.0	657.0	377.0
	27.5	12.2	66.0	41.7	37.0	21.2
Gender						
Female	229.0	104.0	594.0	354.0	361.0	182.0
	25.9	11.8	67.3	39.5	70.2	20.3
Male	252.0	109.0	558.0	385.0	295.0	195.0
	29.2	12.6	64.7	44.0	33.7	22.3
Total	481.0	213.0	1152.0	739.0	656.0	377.0
	27.5	12.2	66.0	41.7	37.0	21.3

undecided slightly more often than white respondents. However, white respondents indicated they had no plans to enroll in vocational education more often than non-white respondents.

Over 25 percent of females and slightly more than 29 percent of males indicated they had taken vocational classes beyond the graduation requirement. Approximately 12 percent of both male and female respondents indicated current enrollment in vocational classes and over 67 percent of females and 64 percent of males, respectively, have not taken any vocational classes beyond those required for graduation. More males than females indicated their plans to enroll in vocational classes before graduation and, more females than males were undecided about their plans for taking vocational classes. Over 20 percent of both males and females had no plans to enroll in vocational classes before graduation.

Plans to Take Additional Vocational Classes by Course Title (Table 21)

In the subject area of Business and Office Education, with the exception of Secretarial/Clerical, General Business, Business Law and Cashier/Checker, non-white and white respondents indicated very similar sometimes identical percentages of response. In Secretarial/Clerical, Business Law an Cashier/Checker non-whites indicated a higher percentage of response than white respondents. In the case of General Business, white respondents indicated a higher percentage of response than did non-white respondents.

Plans to attend courses offered at the YVVSC were indicated by non-white respondents in higher percentages of response in nearly all cases than white respondents. The YVVSC Dental Assistant course was indicated in slightly higher percentage by white respondents.

In their plans to take course in the subject area of Home and Family Life percentages of responses indicated by both white and non-white respondents were nearly identical. Higher percentages of non-whites indicated plans to enroll in Foods/Cooking and Creative Clothing/Sewing than did white respondents.

As in Home and Family Life courses, percentages of responses indicated by both white and non-white respondents were nearly identical in the Trade and Industrial Arts subject area. Welding, Drafting, Architecture and Agronomy were indicated by a higher percentage of white respondents, while all other Trade and Industrial Arts courses were indicated by a higher percentage of non-white respondents.

There were, however, noticeable differences in the plans indicated by female and male respondents. In the subject area of Business and Office Education, females indicated their plans to take Accounting/Bookkeeping nearly twice as often as males. This was also true in the Business Office Procedures and Cashier/Checker courses. Secretarial/Clerical and Fashion Merchandising were indicated in significantly higher percentages for females than males. General

Table 21

Plans to Take Additional Vocational Courses by Course Title

	Race				Gender			
	Non-White		White		Female		Male	
Accounting/Bookkeeping	65	20.1	275	19.1	224	25.2	115	13.2
Secretarial/Clerical	46	14.3	148	10.3	178	20.0	16	1.8
Computer Applications	88	27.3	364	25.3	220	24.7	231	26.6
General Business	35	10.9	235	16.3	151	17.0	116	13.4
Bus. Office Procedures	45	14.0	171	11.9	141	15.8	74	8.5
Mktg. and Dist. Educ.	21	6.5	92	6.4	56	6.3	56	6.5
Advertising/Display	22	6.8	139	9.7	92	10.3	68	7.8
Business Law	44	13.7	129	9.0	90	10.1	82	9.4
Keyboarding	86	26.7	310	21.5	227	25.5	167	19.2
Start Your Own Business	34	10.6	152	10.6	75	8.4	110	12.7
Diversified Occupations	8	2.5	26	1.8	17	1.9	17	2.0
Cashier Checker	39	12.1	91	6.3	99	11.1	31	3.6
Fashion Merchandising	34	10.6	139	9.7	159	17.9	13	1.5
Cosmetology	31	9.6	99	6.9	127	14.3	3	.3
Auto Mechanics	47	14.6	150	10.4	24	2.7	173	19.9
TV Production	25	7.8	80	5.6	42	4.7	62	7.1
Health Science/Nursing	24	7.5	62	4.3	61	6.9	25	2.9
Legal/Med. Secretary	18	5.6	43	3.0	57	6.4	4	.5
Dental Assistant	11	3.4	52	3.6	48	5.4	15	1.7
Radio Broadcasting	36	11.2	110	7.6	54	6.1	92	10.6
Exploring Childhood	18	5.6	75	5.2	76	8.5	17	2.0
Cont./Family Living	12	3.7	57	4.0	54	6.1	15	1.7
Foods/Cooking	46	14.3	166	11.5	144	16.2	68	7.8
Creative Cloth./Sewing	24	7.5	55	3.8	70	7.9	9	1.0
Interior Design	31	9.6	143	9.9	140	15.7	34	3.9
Parenting Skills	12	3.7	40	2.8	45	5.1	7	.8
Welding	18	5.6	90	6.3	4	.4	104	12.0
Drafting	24	7.5	147	10.2	35	3.9	136	15.7
Electronics	35	10.9	146	10.1	16	1.8	163	18.8
Architecture	27	8.4	127	8.8	35	3.9	119	13.7
Metal Working	18	5.6	65	4.5	0	0	83	9.6
Graphic Communications	21	6.5	71	4.9	30	3.4	62	7.1
Aviation Mechanic	16	5.0	63	4.4	3	.3	75	8.6
Auto Body Repair	38	11.8	116	8.1	15	1.7	138	15.9
Printing	12	3.7	24	1.7	12	1.3	24	2.8
Building Trades	23	7.1	43	3.0	3	.3	63	7.3
Agriculture	7	2.2	27	1.9	9	1.0	25	2.9
Animal Science	17	5.3	64	4.4	47	5.3	34	3.9
Agronomy	2	.6	14	1.0	0	0	16	1.8

Business, Advertising and Display, Business Law and Keyboarding were indicated by females in slightly higher percentages than males. However, Computer Applications, Starting Your Own Business and Diversified Occupations were indicated in slightly higher percentages by males than females.

With regards to courses offered at the YVVSC, those traditionally thought to be male oriented courses (i.e., Auto Mechanics, TV Production, Radio Broadcasting) had considerably higher percentages of males indicating their preference than females. Conversely, those courses traditionally thought to be female oriented (i.e., Cosmetology, Health Science/Nursing, Legal/Medical Secretary, Dental Assistant) had considerably higher percentages of females indicating their preference.

The gender relationship of course preferences and plans was continued in the subject area of Home and Family Life, where nearly all courses were indicated, by females, in substantially higher percentages than males. Conversely in the area of Trade and Industrial Arts Education, males indicated their plans to enroll in these course in percentages substantially higher than females. The one exception was Animal Science, where females indicated a slightly higher percentage than males.

Scheduling Barriers to Vocational Education (Table 22)

Over one half of all non-white and white respondents indicated they'd had problems scheduling vocational classes. When asked what particular problems were encountered, 28 percent of white and non-white respondents indicated that the vocational classes took up too many periods in the daily schedule to allow time for enrollment. Although a much smaller percentage of both groups indicated that vocational programs took more than one semester to complete and that this was a barrier to their enrollment, slightly more non-white respondents indicated such than white respondents. This was true also of the problem of classes being filled at the time when both respondent groups wished to enroll. Nearly eighteen percent of the white respondents indicated that they were taking only college preparatory courses compared to slightly more than 12 percent of the non-white respondents.

More females than males indicated they had problems scheduling vocational classes, however nearly 50 percent of both groups indicated this was a problem. Twenty-eight percent of both respondent groups indicated that the vocational classes took up too many periods in their daily schedule. Females indicated higher percentages of response than males for both vocational classes taking up more than one semester and classes being filled when they desired to take them. Slightly over 18 percent of females and slightly over 14 percent of males indicated they were taking only college preparatory courses.

Table 22

Scheduling Barriers to Vocational Education

	No problems scheduling voc classes	Problems scheduling voc classes	Classes took up too many periods	Classes took more than one semester	Classes were filled	Taking only college prep courses	Other
Race							
Non-white	149.0	159.0	91.0	24.0	24.0	40.0	34.0
	48.4	51.6	28.5	7.5	7.5	12.5	10.7
White	697.0	718.0	404.0	87.0	74.0	250.0	164.0
	49.3	50.7	28.4	6.1	5.2	17.6	11.5
Total	846.0	877.0	495.0	111.0	98.0	290.0	198.0
	49.1	50.9	28.4	6.4	5.6	16.7	11.4
Gender							
Female	412.0	463.0	255.0	65.0	53.0	163.0	111.0
	47.1	52.9	28.8	7.3	6.0	18.4	12.5
Male	433.0	412.0	239.0	46.0	45.0	125.0	87.0
	51.2	48.8	28.1	5.4	5.3	14.7	10.2
Total	845.0	875.0	494.0	111.0	98.0	288.0	198.0
	49.1	50.9	28.4	6.4	5.6	16.6	11.4

Support of Counselors (Table 23)

Both non-white and white respondents indicated by responses of over 68 percent, that counselors do not encourage participation in vocational education courses.

Males indicated a higher percentage of responses than females, indicating also that counselors do not encourage participation in vocational education courses. The total percentage of responses for both groups was over 65 percent.

Support of Parent(s) Toward Involvement in Vocational Education (Table 24)

Over one third of both non-white and white respondents indicated that their parents encouraged their participation in vocational education. However, 47 percent of non-white respondents and nearly 40 percent of white respondents indicated that their parents did not know enough about vocational education to encourage them to participate. A very small percentage of both white and non-white respondents indicated their parents did not want them to participate in vocational education, with non-white respondents showing a slightly higher response rate.

Over one third of both females and males indicated that their parents encouraged their participation in vocational education. However, 43 percent of males and nearly 40 percent of females indicated their parents did not know enough about vocational education to encourage their participation. As with the responses by race, a very small percentage of both females and males indicated their parents did not want them to participate in vocational education, with males showing a slightly higher response rate.

Importance of Opinions of Friends and Teachers in Taking Vocational Classes (Table 25)

A very small percentage of both non-white and white respondents indicated that the opinions of friends were extremely important in their decisions to enroll in vocational education classes, with non-white respondents indicating a slightly higher percentage of response. Friend's opinions were important in the decision of more non-white respondents than white respondents. Both groups indicated a high percentage of response to friends being only somewhat important and/or not important at all in their decision to enroll in vocational classes.

With regards to teachers' opinions, a much higher percentage of non-white respondents indicated that teachers' opinions were extremely important in their decision to enroll in vocational education classes. Teachers' opinions were important in the decisions of more non-white respondents than white respondents, and somewhat important in the decisions of more white respondents than non-white respondents. However, both groups indicated a high percentage of response to teachers' opinions being very important or somewhat important. A higher

Table 23

Support of Counselors

	Counselors encourage participation in vocational classes	Counselors do not encourage participation	Row total
Race			
Non-White	103.0	221.0	324.0
	31.8	68.2	18.4
White	449.0	992.0	1441.0
	31.2	68.8	81.6
Total	552.0	1213.0	1765.0
	31.3	68.7	100.0
Gender			
Female	304.0	588.0	892.0
	34.1	65.9	50.6
Male	248.0	622.0	870.0
	28.5	71.5	49.4
Total	552.0	1210.0	1762.0
	31.3	68.7	100.0

Table 24

Support of Parent(s) Toward Involvement in Vocational Education

	Encourage participation in voc. educ. classes	Don't know enough about voc ed to encourage participation	Do not want participation in voc. ed.	Other	Row Total
Race					
Non-white	111.0	151.0	15.0	44.0	321.0
	34.6	47.0	4.7	13.7	18.4
White	514.0	566.0	56.0	283.0	1419.0
	36.2	39.9	3.9	19.9	81.6
Total	625.0	717.0	71.0	327.0	1740.0
	35.9	41.2	4.1	18.8	100.0
Gender					
Female	328.0	348.0	28.0	178.0	882.0
	37.2	39.5	3.2	20.2	50.8
Male	296.0	368.0	43.0	148.0	855.0
	34.6	43.0	5.0	17.3	49.2
Total	624.0	716.0	71.0	326.0	1737.0
	35.9	41.2	4.1	18.8	100.0

Table 25

Importance of Opinions of Friends and Teachers in Taking Vocational Classes

	Friends				Teachers			
	Extremely important	Important	Somewhat important	Not important at all	Extremely important	Important	Somewhat important	Not important at all
Race								
Non-white	15.0	62.0	123.0	125.0	37.0	114.0	110.0	61.0
	4.6	19.1	37.8	38.5	11.5	35.4	34.2	18.9
White	40.0	189.0	621.0	590.0	84.0	416.0	577.0	360.0
	2.8	13.1	43.1	41.0	5.8	28.9	40.2	25.1
Total	55.0	251.0	744.0	715.0	121.0	530.0	687.0	421.0
	3.1	14.2	42.2	40.5	6.9	30.1	39.1	23.9
Gender								
Female	19.0	123.0	384.0	371.0	52.0	281.0	368.0	193.0
	2.1	13.7	42.8	41.4	5.8	31.4	41.2	21.6
Male	36.0	128.0	358.0	343.0	69.0	246.0	319.0	228.0
	4.2	14.8	41.4	39.7	8.0	28.5	37.0	26.5
Total	55.0	251.0	742.0	714.0	121.0	527.0	687.0	421.0
	3.1	14.2	42.1	40.5	6.9	30.0	39.1	24.0

percentage of white respondents than non-white respondents indicated teachers' opinions were not important at all in their decision to enroll in vocational classes.

A very small percentage of both males and females indicated that the opinions of friends were extremely important in their decision to enroll in vocational classes, with males indicating a slightly higher percentage of response. The opinions of friends were important in the enrollment decision of slightly more males than females. Both groups indicated a high percentage of response to friends being only somewhat important and/or not important at all to their decision to enroll in vocational classes.

Teachers' opinions were extremely important in a very small percentage of cases for both males and females. Both males and females indicated a high percentage of response to teachers being important and/or somewhat important to their decision to enroll in vocational classes. Over 20 percent of females and males indicated teachers' opinions were not important at all, with males responses in slightly higher percentage than females.

Skills Necessary to Succeed in Vocational Education (Tables 26a and 26b)

More than 25 percent of the white respondents and 67 percent of the non-white respondents indicated they had the skills necessary to succeed in vocational classes. Of those who did not know or did not perceive themselves as having the skills necessary to succeed, non-white respondents indicated in small but higher percentages that: 1) their math skills were not good enough, 2) reading skills were not good enough, 3) vocational classes required too much work in class, and 4) their English speaking and writing skills were not good enough. Conversely, a small but slightly higher percentage of white respondents indicated that they did not like to work with their hands.

Over 75 percent of males and 70 percent of females indicated they had the skills to succeed in vocational education. Of those who did not know or did not perceive themselves as having the skills necessary to succeed, females indicated a small but slightly higher percentage than males that: 1) their math and reading skills were not good enough, 2) their English speaking skill was not good enough, and 3) they did not like to work with their hands. Males indicated a small but slightly higher percentage of response that: 1) vocational classes required too much work in class, and 2) their English writing ability was not good enough to enroll in vocational classes.

Prerequisites as Barriers to Participation in Vocational Education (Table 27)

The majority of both non-white and white respondents indicated that the prerequisites to vocational classes did not serve as barriers to their participation in vocational education, although over one third of

Table 26a

Skills Necessary to Succeed in Vocational Education

	Have skills to succeed in voc classes	Don't know if have skills to succeed in voc ed	Don't have skills to succeed in voc ed	Math skills are not good enough	Reading skills not good enough
Race					
Non-White	215.0	91.0	14.0	56.0	23.0
	67.2	28.4	4.4	17.6	7.2
White	1086.0	307.0	47.0	173.0	62.0
	75.4	21.3	3.3	12.2	4.4
Total	1301.0	398.0	61.0	229.0	85.0
	73.9	22.6	3.5	13.2	4.9
Gender					
Female	627.0	238.0	27.0	141.0	48.0
	70.3	26.7	3.0	16.0	5.4
Male	672.0	159.0	34.0	87.0	37.0
	77.7	18.4	3.9	10.2	4.3
Total	1299.0	397.0	61.0	228.0	85.0
	73.9	22.6	3.5	13.1	4.9

Table 26b

Skills Necessary to Succeed in Vocational Education

	Require too much work in class	English speaking not good enough	English writing not good enough	Don't like to work with hands	Other
Race					
Non-White	17.0	17.0	31.0	7.0	10.0
	5.3	5.3	9.7	2.2	3.1
White	30.0	34.0	74.0	46.0	70.0
	2.1	2.4	5.2	3.2	4.9
Total	47.0	51.0	105.0	53.0	80.0
	2.7	2.9	6.0	3.0	4.6
Gender					
Female	19.0	26.0	48.0	29.0	44.0
	2.2	3.0	5.4	3.3	5.0
Male	28.0	25.0	57.0	24.0	36.0
	3.3	2.9	6.7	2.8	4.2
Total	47.0	51.0	105.0	53.0	80.0
	2.7	2.9	6.0	3.1	4.6

Table 27

Prerequisites as Barriers to Participation in Vocational Education

	Prerequisites are not barriers to voc	Prerequisites are barriers	Prerequisites are too difficult	Prerequisites are too time consuming	Look at previous attendance records as barriers	Other
Race						
Non-white	205.0	105.0	25.0	60.0	22.0	40.0
	66.1	33.9	11.1	26.5	9.7	17.7
White	987.0	403.0	45.0	199.0	67.0	197.0
	71.0	29.0	5.2	23.1	7.8	22.9
Total	1192.0	508.0	70.0	259.0	89.0	237.0
	70.1	29.9	6.4	23.8	8.2	21.8
Gender						
Female	616.0	241.0	30.0	132.0	38.0	110.0
	71.9	28.1	5.8	25.7	7.4	21.4
Male	574.0	266.0	40.0	127.0	51.0	126.0
	68.3	31.7	7.0	22.2	8.9	22.0
Total	1190.0	507.0	70.0	259.0	89.0	236.0
	70.1	29.9	6.4	23.8	8.2	21.7

the non-white and nearly one third of the white respondents did indicate that prerequisites did serve as barriers to their enrollment. Over 25 percent of non-white and 23 percent of white respondents indicated that the prerequisites to vocational courses were too time consuming. Prerequisites were too difficult for a higher percentage of non-white than white respondents, and the consideration of previous attendance records was also indicated by a higher percentage of non-white than white respondents.

The majority of females and males also indicated that prerequisites were not barriers to their participation in vocational education. However, nearly one third of the females and over one third of the males indicated that prerequisites did serve as barriers to vocational classes. As with the findings by race, over one fourth of the females and over 20 percent of the males felt the prerequisites too time consuming, while slightly higher percentages of males than females indicated the prerequisites to vocational classes as too difficult and the consideration of previous attendance records served as barriers to their participation.

Perception of Money as a Barrier (Table 28)

For the majority of white respondents, money was not indicated as a barrier to vocational education. Over one half of the non-white respondents indicated that money either was a barrier or may be a barrier to their full participation in vocational classes. However, it is interesting to note, that although the majority of white respondents did not perceive money as a barrier to their participation in vocational education classes, over 23 percent did indicate money as a barrier to vocational education.

Although nearly 65 percent of both females and males indicated money was not a barrier to vocational education, over one fourth of both groups indicated that money was a significant barrier to their participation in such programs.

Perception of Vocational Education Student Leadership Organizations (Table 29)

Nearly one half of the non-white respondents indicated that student leadership organizations provided good leadership training, while nearly sixty percent of the white respondents responded as such. A higher percentage of non-white respondents than white respondents indicated that they did not know about vocational student organizations in their school. A small percentage of both groups indicated that too many activities were required when involved in a student leadership organization, and a small but substantially higher number of non-white respondents indicated they did not have enough money to participate in these organizations.

Although a relatively high percentage of both females and males indicated that student leadership organizations provided good leadership

Table 28

Money as Barrier to Vocational Education

	Money is not barrier	Money is barrier	Money may be a barrier
Race			
Non-White	146.0	48.0	121.0
	46.3	15.2	38.4
White	985.0	99.0	32.0
	69.6	7.0	23.4
Total	1131.0	147.0	453.0
	65.3	8.5	26.2
Gender			
Female	565.0	72.0	236.0
	64.7	8.2	27.0
Male	563.0	75.0	217.0
	65.8	8.8	25.4
Total	1128.0	147.0	453.0
	65.3	8.5	26.2

Table 29

Vocational Education Student Leadership Organizations

	S.L.O.'s provide good leadership training	Too many activities are required	Not enough money to participate in S.L.O.'s	Do not know about S.L.O.'s	Other
Race					
Non-white	154.0	21.0	2.0	128.0	31.0
	49.8	6.8	13.6	41.4	10.0
White	840.0	93.0	93.0	431.0	152.0
	59.9	6.6	6.6	30.7	10.8
Total	994.0	114.0	135.0	559.0	183.0
	58.1	6.7	7.9	32.7	10.7
Gender					
Female	580.0	50.0	60.0	253.0	86.0
	66.8	5.8	6.9	29.1	9.9
Male	413.0	64.0	75.0	304.0	97.0
	49.2	7.6	8.9	36.2	11.5
Total	993.0	114.0	135.0	557.0	183.0
	58.1	6.7	7.9	32.6	10.7

training, a substantially higher percentage of females than males responded as such. Conversely, a higher percentage of males indicated no knowledge of student leadership organizations than females, and both indicated a relatively high percentage of response. Although very small percentages of response were indicated by both males and females, males indicated a slightly higher percentage response to too many activities being required and to not having enough money to participate in student leadership organizations than females.

Perception of Job Opportunities After Completion of Vocational Education (Table 30)

Nearly 60 percent of both non-white and white respondents indicated that many job opportunities were available to students after completing vocational education programs. Slightly more than 36 percent of non-white respondents and near 33 percent of white respondents indicated they did not know if vocational education completers had many job opportunities available and a very small percentage of both white and non-white respondents indicated few or no job opportunities available after completion of vocational education programs.

Similar percentages of response were indicated for females and males. Both indicated, by high percentages of response, that many job opportunities were available to students completing vocational education programs. Over one third of both males and females indicated that they did not know if many job opportunities were available to vocational program completers. Although a relatively small percentage of males and females indicated that few job opportunities were available for vocational program completers, it was interesting to note that this was indicated by more males than females.

Perception of Importance of Jobs for Which Vocational Programs Prepare Students (Table 31)

Seventy-five percent of the non-white respondents indicated that vocational education prepared students for jobs in important fields, compared to near 70 percent response for white respondents. Near 20 percent of both respondent groups indicated they did not know if vocational programs prepared students for important jobs, with the white respondents indicating a slightly higher response than non-white respondents. A very small percentage of both non-white and white respondents indicated that vocational education did not prepare students for jobs in important fields, with white respondents showing a slightly higher percentage of response than non-white respondents.

Seventy percent of both females and males indicated that vocational education prepared students for jobs in important fields. A higher percentage of females than males indicated they did not know if vocational education prepared students for jobs in important fields, while a small but slightly higher percentage of males than females indicated that vocational education did not prepare students for jobs in important fields.

Table 30

Job Opportunities After Completion of Vocational Education

	Many job opportunities	Few job opportunities	Don't know	Row total
Race				
Non-White	186.0	19.0	116.0	321.0
	57.9	5.9	36.1	18.4
White	854.0	104.0	465.0	1423.0
	60.0	7.3	32.7	81.6
Total	1040.0	123.0	581.0	1744.0
	59.6	7.1	33.3	100.0
Gender				
Female	532.0	42.0	312.0	886.0
	60.0	4.7	35.2	50.9
Male	505.0	81.0	269.0	855.0
	59.1	9.5	31.5	49.1
Total	1037.0	123.0	581.0	1741.0
	59.6	7.1	33.4	100.0

Table 31

Importance of Jobs for which Vocational Programs Prepare Students

	Voc ed prepares for jobs in important fields	Does not prepare for jobs in important fields	Don't know	Row total
Race				
Non-White	240.0	17.0	63.0	320.0
	75.0	5.3	19.7	18.4
White	990.0	106.0	327.0	1423.0
	69.6	7.4	23.0	81.6
Total	1230.0	123.0	390.0	1743.0
	70.6	7.1	22.4	100.0
Gender				
Female	626.0	46.0	213.0	885.0
	70.7	5.2	24.1	50.9
Male	601.0	77.0	177.0	855.0
	70.3	9.0	20.7	49.1
Total	1227.0	123.0	390.0	1740.0
	70.5	7.1	22.4	100.0

Parent Data Analysis of Barriers to Vocational Education

The parent questionnaire data was summarized (Table 32) and a description of the summary by topic outlined follows.

Son/Daughter's Plans After High School

Nearly fifty percent of the parents surveyed indicated attendance at a university as their son/daughter's plans after high school. Community college plans followed with 21 percent, vocational technical institutes with slightly more than 11 percent and less than three percent indicating their child's plans to attend a private trade school. Only slightly more than five percent perceived their son/daughter's plans to include the military, slightly more than 11 percent indicated marriage and over 22 percent responded that their son/daughter were undecided.

In general parents' perceptions of plans after high school were similar to those actually indicated by students.

Career Guidance

Although over half of the students responded they had not received adequate career guidance to make a decision to enroll in vocational education, only 33 percent of the parents indicated this as a barrier to their child's involvement in vocational education programs. Thirty-eight percent felt their son/daughter had received adequate career guidance, and slightly more than one fourth indicated they did not know if they had received adequate career guidance.

No parents responding to the survey indicated that their son or daughter would not be interested in vocational education, even with additional guidance. Nearly 30 percent of parents, as with the student respondents, indicated having counselors explain vocational education to students would help them make the decision to enroll in vocational education. Slightly over one fourth of parents felt open houses or displays would be effective career guidance and slightly more than eight percent indicated personal invitations from the vocational teacher as an effective method to encourage students to enroll in vocational education.

Perception of YVVSC

Nearly 100 percent of the parent respondents indicated they had heard of the YVVSC, which was similar to the percentage of response for students. Seventy-three percent of the parents indicated they would be willing for their son or daughter to take classes at the YVVSC, nearly 28 percent indicated they might be willing for their son or daughter to attend and just slightly over five percent would not be willing for their son or daughter to attend the YVVSC.

Table 32

Summary of Parent Questionnaire

1. School which your son/daughter attends

F	%	
30	42.3	Davis
41	57.7	Eisenhower
0		Alternative programs

2. Optional—Ethnic Classification (please mark only one)

F	%	
2	2.8	Asian
1	1.4	Black
3	4.2	Hispanic
0	0	Native
62	87.3	White
1	1.4	Other (please specify):____________________

3. What are your son/daughter's plans after they leave high school? (Mark all that apply.)

F	%	
35	49.3	University
8	11.3	Vocational Technical Institute
15	21.1	Community College
2	2.8	Private Trade School
4	5.6	Military
15	21.1	Work
8	11.3	Marriage
16	22.5	Undecided
3	4.2	Other (please specify): ____________________

4. Do you feel they have had enough career guidance to make a decision to enroll in vocational education? (please mark only one)

F	%	
27	38.0	Yes (skip to question #6)
24	33.8	No (go to next question)
18	25.4	Don't know (skip to question #6)

Table 32 (Continued)

Summary of Parent Questionnaire

5. If you answered "no" to question #4, what additional career guidance would be needed to help them make a decision? (mark all that apply)

F	%	
0		They would not be interested in vocational education, even with additional career guidance
21	29.6	Have counselors explain vocational education classes/programs to them
18	25.4	Provide open houses or displays on vocational education classes
6	8.5	Personal invitation from the vocational teacher
1	1.4	Other (please specify): ____________

6. Have you heard of the Yakima Valley Vocational Skills Center? (mark only one answer)

F	%	
68	95.8	Yes
3	4.2	No

7. Would you be willing for your son/daughter to go to the Yakima Valley Vocational Skills Center to take a vocational class of interest to them? (mark only one)

F	%	
52	73.2	Yes
14	19.7	Maybe
4	5.6	No

8. Have your son/daughter taken a class at the Yakima Valley Vocational Skills Center? (mark all that apply)

F	%	
8	11.3	Yes (skip to question #10)
3	4.2	Currently enrolled (skip to question #10)
62	87.3	No (go to next question)

Table 32 (Continued)

Summary of Parent Questionnaire

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9. If you answered "no" to question #8, why haven't they enrolled in vocational classes at the Yakima Valley Vocational Skills Center? (mark all that apply)

F	%	
6	8.5	There are no classes of interest to them at the YVSC
5	7.0	None of their friends attend the YVSC
3	4.2	It's too far to travel
15	21.2	They were not informed about programs at YVSC
9	12.7	The Skills Center does not enroll 10th grade students
27	38.0	They cannot fit Skills Center classes into their schedule
16	22.5	Other (please specify): ______________________

10. Have they taken additional vocational education classes beyond the graduation requirement? (mark all that apply)

F	%	
11	15.5	Yes
4	5.6	Currently enrolled
49	69.0	No
8	11.3	Don't know

11. Does your son/daughter plan to enroll in additional vocational education classes before leaving high school? (mark only one answer)

F	%	
32	45.1	Yes (go to next question)
22	31.0	Don't know (skip to question 13)
15	21.1	No (skip to question #13)

12. If you answered "yes" what kinds of vocational classes do you think they will take? (mark all that apply)

F	%		F	%	
4	5.6	Accounting/Bookkeeping	2	2.8	Exploring Childhood
4	5.6	Secretarial/Clerical	1	1.4	Contemporary/Family Living
6	8.5	Computer Applications			
4	5.6	General Business	1	1.4	Foods/Cooking
4	5.6	Business Office Procedures	4	5.6	Creative Clothing/ Sewing

Table 32 (Continued)

Summary of Parent Questionnaire

F	%		F	%	
2	2.8	Marketing & Distributive Ed.	4	5.6	Interior Design
			3	4.2	Parenting Skills
4	5.6	Advertising & Display			
1	1.4	Business Law			
10	14.1	Keyboarding	3	4.2	Welding
0	0	Starting Your Own Business	4	5.6	Drafting
			5	7.0	Electronics
1	1.4	Diversified Occupations	3	4.2	Achitecture
1	1.4	Cashier/Checker	1	1.4	Metal Working
4	5.6	Fashion Merchandising	1	1.4	Graphic Communications
4	5.6	Cosmetology	2	2.8	Aviation Mechanic
4	5.6	Auto Mechanics	3	4.2	Auto Body Repair
3	4.2	TV Production	0	0	Printing
1	1.4	Health Science/Nursing	0	0	Agriculture
2	2.8	Legal Med. Secretary	2	2.8	Animal Science
4	5.6	Dental Assistant	0	0	Agronomy
3	4.2	Radio Broadcasting	0	0	Building Trades

13. Has your son/daughter had problems fitting vocational classes into their schedule? (mark only one)

F	%	
29	40.8	Yes (go to next question)
25	35.2	No (skip to question #15)
17	23.9	Don't know (skip to question 15)

14. If they've had problems fitting vocational classes into their schedule, what were the problems that they had? (mark all that apply)

F	%	
12	16.9	Class took up too many periods in their daily schedule
4	5.6	Class took more than one semester to complete
3	4.2	Were not able to take the vocational class they wanted because it was filled
16	22.5	Are taking only college preparatory classes.
7	9.9	Other (please specify): ______________________

Table 32 (Continued)

Summary of Parent Questionnaire

15. Has your son/daughter's counselor encouraged him/her to participate in vocational education? (mark only one)

F	%	
13	18.3	Yes
27	38.0	No
31	43.7	Don't know

16. Which of the following best describes your feelings towards your son/daughter's involvement in vocational classes? (mark only one)

F	%	
37	52.1	I encourage him/her to participate in vocational education classes.
22	31.0	I don't know enough about vocational education classes to encourage him/her to participate.
1	1.4	I do not want him/her to participate in vocational education.
11	15.5	Other (please specify): ______________________

17. How important are the opinions of your son's/daughter's friends in their decision to take vocational education classes? (mark only one)

F	%	
7	9.9	Extremely important
13	18.3	Important
25	35.2	Somewhat important
23	32.4	Not important at all

18. How important are the opinions of their teachers in their decision to take vocational education classes? (mark only one)

F	%	
10	14.1	Extremely important
19	26.8	Important
28	39.4	Somewhat important
12	16.9	Not important at all

Table 32 (Continued)

Summary of Parent Questionnaire

19. Do you feel your son/daughter has the skills to do well in a vocational class? (mark only one)

F	%	
63	88.7	Yes (skip to question #21)
1	1.4	No (go to next question)
7	9.9	Don't know (go to next question)

20. If you don't know or don't feel they have the skills, indicate which skills they are lacking below. (Mark all that apply)

F	%	
7	9.9	His/her math skills are not good enough
6	8.5	His/her reading skills are not good enough
0	0	Vocational classes require too much work in class
3	4.2	His/her English speaking ability is not good enough
3	4.2	His/her English writing ability is not good enough
0	0	He/she doesn't like to work with his/her hands
3	4.2	Other (please specify):

21. Does lack of money keep your son/daughter from taking vocational education classes? (mark only one)

F	%	
7	9.9	Yes
20	28.2	Maybe
43	60.6	No

22. What do you think about vocational education student leadership organization activities (i.e.--FFA, DECA, FBLA, VICA, FHA)? (mark all that apply)

F	%	
32	45.1	They provide good leadership training for students
6	8.5	Too many activities are required
1	1.4	Costs too much money to participate in activities
32	45.1	I do not know about vocational education student leadership organizations
6	8.5	Other (please specify):

Table 32 (Continued)

Summary of Parent Questionnaire

23. Do you think students who complete a vocational education program have many job opportunities available to them? (mark only one)

F	%	
35	49.3	Yes
2	2.8	No
34	47.9	Don't know

24. Do you think vocational education programs offered at your son/daughter's school prepare students for jobs in important fields? (mark only one)

F	%	
41	57.7	Yes
3	4.2	No
26	36.6	Don't know

Barriers to Enrollment at YVVSC

As with the student respondents, 40 percent of parents indicated the most significant barrier to the YVVSC was the inability of their sons/daughters to fit skills center classes into their schedule. Twenty-one percent of parents indicated their sons/daughters were not informed about programs at the YVVSC, which was nearly identical to the response of the students. Slightly more than 12 percent indicated that the skills center did not enroll 10th grade students and eight percent felt there were no classes of interest for their sons/daughters and the YVVSC. Very small percentages of parents indicated none of their friends attended the skills center and too far to travel as barriers to vocational enrollment at the YVVSC.

Additional Vocational Classes Taken Beyond Graduation Requirement

Parent's perceptions were similar to those of students with regards to additional vocational classes taken beyond the requirement for graduation. Slightly more than 15 percent of parents indicated their sons/daughters had taken additional vocational education classes beyond the graduation requirement, compared to approximately 27 percent of students responding to the same question. Slightly more than five percent indicated their sons/daughters were currently enrolled, and slightly more than 11 percent did not know if their son or daughter had taken additional vocational courses beyond those required for graduation. Sixty-nine percent of the parents, as with 65 percent of students, indicated their son/daughter had taken no vocational classes beyond those required for graduation.

Slightly more than 45 percent of parents indicated their son or daughter had plans to enroll in additional vocational education before leaving high school, 31 percent didn't know of their child's plans and 21 percent indicated that their son/daughter had no plans to enroll, in additional vocational classes before high school graduation.

Plans to Take Additional Vocational Courses by Course Title

Slightly more than five percent of parents indicated their sons/daughters plans to enroll in vocational education classes in the area of Business and Office Education. Keyboarding (14.1 percent) and Computer Applications (8.5 percent) were the courses most often indicated by parents. Similarly, five percent of parents perceived their sons/daughters planned to take courses at the skills center. In the case of Home and Family Life courses, between 1.4 percent and 2.8 percent indicated they perceived their son or daughter to take Contemporary Living, Foods/Cooking and Exploring Childhood courses. Parenting skills was indicated by 4.2 percent and 5.6 percent of parents indicated that they perceived their sons/daughters taking Interior Design and Creative Clothing/Sewing.

Industrial Arts and Agriculture courses were indicated by parents in similar percentages as their responses for Home and Family Life courses. Electronics (7.0 percent) and Drafting (5.6 percent) had the highest number of responses. It is interesting to note that Printing, Agriculture, Agronomy and Building Trades were not indicated by any parents as additional vocational courses which they perceived their son or daughter would take before graduation. The responses of parents were very similar to those previously indicated by the students.

Scheduling Barriers

Although parents indicated a smaller percentage than students, over 40 percent of parents indicated their son/daughter had problems fitting vocational classes into their schedule. Thirty-five percent indicated their child had no problems scheduling vocational and nearly 24 percent indicated no knowledge of whether their son/daughter had problems fitting vocational classes into their schedule.

Of those parents who indicated their son/daughter had problems fitting vocational classes into their schedule, slightly more than 22 percent indicated their sons/daughters were taking only college preparatory courses, compared with only 12 to 15 percent of the students who responded to the student questionnaire. Nearly 17 percent of parents responded that vocational classes took up too many periods in their sons/daughters schedules and slightly more than five percent indicated that, since the vocational course took more than one semester to complete, this was a barrier to vocational class enrollment. Only four percent of parents indicated that their sons/daughters were unable to take vocational classes because they were filled.

Counselor Encouragement to Take Vocational Courses

More than one third of the parents indicated that counselors do not encourage students to participate in vocational education with nearly 45 percent indicating they did not know if counselors were encouraging students to participate in vocational education. These percentages, though significant, were in even lower percentages of response than the student's perceptions of counselors encouragement and support of students wishing to participate in vocational education. This seemed a significant barrier to vocational educational enrollments.

Support of Parent(s) Toward Involvement in Vocational Education

Fifty-two percent of parents indicated that they encouraged their daughter/son to participate in vocational education, compared to only 30 percent of the students. However, a higher percentage of students indicated that their parents did not know enough about vocational education to encourage him or her to participate, with 31 percent of parents indicating their lack of knowledge of vocational education. A very small percentage of parents, as with students, indicated they did not want their son/daughter to participate in vocational education.

Importance of Opinions of Friends and Teachers in Taking Vocational Classes

Responses were similar between parents and students with regard to the importance of the opinions of friends and teachers in participation in vocational classes. Nearly ten percent of parents felt the opinions of their son's/daughter's friends were extremely important in the decision to take vocational education classes, and slightly more than 18 percent indicated friend's opinions to be important in their decisions. Nearly 70 percent of parents felt the opinions of their daughter/son's friends were either somewhat or not important at all.

Teachers' opinions, were extremely important and important to nearly 41 percent of the parent respondents and over 56 percent of parents indicated that teachers' opinions were somewhat or not important at all in their son/daughter's decision to enroll in vocational classes.

Skills Necessary to Succeed in Vocational Education

Nearly 90 percent of parents indicated their daughters/sons had the skills to do well in vocational education classes. Of those who indicated their son/daughter lacked the skills or did not know if their son/daughter possessed the skills necessary to succeed in vocational classes, ten percent felt they did not possess the math skills and over eight percent felt they did not possess the reading skills necessary to succeed in vocational classes. Only four percent felt their son/daughter did not have the English writing or speaking ability to do well in vocational education.

Money as Barrier to Vocational Education

Lack of money was not seen by the majority of parents as a barrier to vocational education. Over 60 percent indicated lack of money did not keep their son/daughter from participating in vocational education, 28 percent indicated it as a possible barrier and nearly ten percent indicated that it was a significant barrier to the participation of their daughter or son, in vocational education.

Vocational Education Student Leadership Organizations

Forty-five percent of parents indicated that vocational student leadership organizations provided good leadership training for students with the same percentage of parents indicating they did not know about student leadership organizations. Slightly more than eight percent felt vocational education student leadership organizations required too many activities and only slightly more than one percent indicated the vocational student leadership organization activities cost too much money to participate.

Job Opportunities After Completion of Vocational Education

Nearly one half of parent respondents indicated that student completers of vocational education programs have many job opportunities available to them. However, it is interesting to note that nearly 60 percent of student respondents indicated the perceived availability of job upon completion of vocational education. Nearly 48 percent of parent respondents indicated that they did not know if students who completed vocational programs had many job opportunities available to them, and nearly three percent felt no or few job opportunities would be available to completers of vocational education programs.

Importance of Jobs for Which Vocational Programs Prepare Students

Significantly lower percentages of parents (57.7) indicated vocational education programs prepared students for jobs in important fields than did student respondents (72 percent). Over 36 percent of parents did not know if vocational education prepared students for jobs in important fields and only four percent indicated that they did not feel vocational education prepared students for jobs in important fields.

Vocational Advisory Committee Data Analysis of Barriers to Vocational Education

Background

Community vocational advisory committee members were surveyed to gain as much information as possible regarding their perception of the student population and employment. All data received from the questionnaire was compiled, analyzed and described. The results of that data analysis are discussed as follows.

Demographic Description

A total of 49 questionnaires were sent out with 28 completed for a 57 percent rate of return. A broad range of advisory council members responded, from those employing one person to those employing 801 individuals. A variety of companies were represented including: truck repair, an employment agency, fabrication, drafting, accounting, retail sales, medical service, the federal government, school district, juice processing and higher education.

Type of Company

When asked, approximately one half (13, or 46.4 percent) of the survey respondents indicated they were employed by a retail sales company. The remaining 15 (53.6 percent), indicated they were employed by a broad range of businesses as identified in the Demographic Description section. Interestingly there were no persons responding to the questionnaire who indicated they were employed by either wholesale or manufacturing enterprises. Table 33 summarizes the data for types of companies respondents were employed by.

Company Size

Advisory committee members were asked to identify the size of companies they were employed by. About one third or ten employees (35.7 percent) indicated there were between one to five employees in their company. Only four persons (14.3 percent) were employed in a firm employing six to twenty persons and five (17.9 percent) worked in a firm employing 21 to 40 persons. However, nine persons indicated they worked for a company who employed 41 persons or more. Specific data on company size is found in Table 34.

Job Types

An important element of the advisory committee survey was to determine the types, by level, of jobs available within the employment firms of those committee members participating in the study. Questionnaire choices included a five-step range of job levels from "entry" level to "professional" plus an "other" category. Respondents were requested to mark all appropriate employment levels available within their firm. Sixteen persons (57.1 percent) replied their firm hired persons at the entry level, whereas 19 (67.9 percent) indicated their company employed semi-skilled employees. Skilled employment was available in the companies of 22 respondents (78.6 percent) whereas 17 persons (60.7 percent) indicated professional employees were hired by their employer or company. Four (14.3 percent) responses were recorded under the "other" category all representing variations of the four identified occupational levels. Specific data regarding job levels may be found in Table 35.

Employee Locating Methods

The 28 survey participants were asked to identify major ways their company located prospective employees. For entry level, semi-skilled, skilled, professional or other jobs. More than one half (57.1 percent) or 16 persons responded they used classified advertisements to locate their employees. Only 18 or 28.6 percent indicated they contacted vocational high school programs directly to find persons for their workforce. A surprising 71.4 percent (20 respondents) indicated they used direct referrals. Exactly one half or 50 percent indicated they used other methods for their employee location. These included: civil

Table 33

Frequencies and Percentage of Respondent Employment Companies by Type

Company Type	F	%
Retail	13	46.4
Wholesale	0	0.0
Manufacturing	0	0.0
Other	15	53.6

Table 34

Frequencies and Percentages of Reported Company Size

Company Size	F	%
1-5 employees	10	35.7
6-20 employees	4	14.3
21-40 employees	5	17.9
41 or more employees	9	32.1

Table 35

Frequencies and Percentages of Levels of Job Types Found in Questionnaire Respondent Places of Employment

Job Levels	F	%
Entry Level	16	57.1
Semi-Skilled	19	67.9
Skilled	22	78.6
Professional	17	60.7
Other	4	14.3

service contacts, employment agencies, pre-vocational training, walk-in applications, in company applications and interviews, college campus recruitment, professional journals, social service, state and federal registry, trade schools, and in company promotion programs.

It was apparent that a variety of employee location methods were incorporated by survey respondents. With classified advertisements and "other" diverse approaches identified previously, as the two most common approaches. Table 36 outlines frequencies and percentages of the four major methods used to locate employees.

Vocational Student Employees

Survey participants were asked if they had ever hired students enrolled in either the Yakima high schools or the vocational skills center. Slightly more than 50 percent (15) persons responded that they had hired one or more students who had enrolled in vocational classes at Davis or Eisenhower secondary schools or the Yakima Valley Vocational Skills Center. Interestingly, 12 respondents (42.9 percent) (almost as many) indicated they had never hired a student from any of these schools. Table 37 documents frequencies and percentages regarding the hiring of students from Yakima schools offering vocational programs.

Reasons for not hiring Yakima vocational students was next posed to respondents. Each participant was asked to respond to four reasons identified as those most likely to influence the decision not to hire. The first issue broached was referral Five persons (47.9 percent) indicated that they simply had no students referred to them for employment consideration. About 15 percent of the survey participants (four persons) cited lack of necessary skills by students as the principle reason for not hiring. When questioned, only four persons stated that vocational programs do not train students for jobs within their firm. When asked if the Yakima vocational programs do not train students for jobs in the field only one person (3.6 percent) said yes, however six individuals (21.4 percent) cited a range of "other" reasons why they had not hired Yakima high school students. Those reasons included that they hired only from within their institution, they had no need, vocational programs were not appropriate for their firm, they could hire only if the person is on the state register, and that students have been volunteers but have never applied for jobs.

Table 38 outlines specific data regarding reasons survey respondents have not hired Yakima high school or skills center students.

Hiring Plans

The final issue addressed in the Advisory Committee Survey was the hiring plans of questionnaire respondents. Twenty-six persons answered the question "Do you plan to hire one or more vocational education students in the future?" A total of 17 persons (65.4 percent) indicated

Table 36

Employee Recruitment (Location) Methods

Methods	F	%
Classified Advertisements	16	57.1
Local High School Vocational Programs	8	28.6
Direct Referrals	20	71.4
Other	14	50.0

Table 37

Frequencies and Percentages of Students Hired from Yakima Schools Offering Vocational Programs

Companies	F	%
Have Hired From Yakima Schools	15	53.6
Have Not Hired From Yakima Schools	12	42.9

Table 38

Primary Reasons For Not Hiring Yakima Vocational Students By Frequency and Percentages

Reasons For Not Hiring	F	%
No Referral	5	17.9
Lack of Necessary Skills	4	14.3
No Program Training Offering	1	3.6
Other	6	21.4

they would hire one or more vocational students, however, almost one third (32.1 percent) said they would not be hiring any vocational students.

Table 39 presents specific frequencies and percentages for respondents plans to hire vocational students.

Employees According to Race, Gender, Physical Impairment and English Proficiency

An important indicator of employment success is the determination of job placement for each population group. It was determined that Yakima had nine categories of possible employee groups. Each survey respondent was, therefore, asked to indicated their number of employees in any combination of the following groups: Asian, Black, Hispanic, Native American, White, Limited English Proficiency, Handicapped or Disabled, Female, and Male. All 28 survey participants responded to the nine part questions as follows:

Asian

Seventeen respondents (60.7 percent) indicated they currently employed no Asians. Ten or 15.7 percent indicated they currently have between one to four Asian employees. One respondent (3.6 percent) reported 13 Asian employees.

Black

A total of 25 (89.3 percent) persons stated they currently had no black employees, three respondents indicated they had three to ten black employees and one person (3.6 percent) cited ten black employees.

Hispanic

Fourteen (50 percent) of survey participants responded that they had no Hispanic employees. However, 12 (42.9 percent) did indicate they had one to five Hispanic employees. One person (3.6 percent) responded that his firm employed 27 Hispanics.

Native Americans

A total of 23 (82.1 percent) individuals polled indicated they did not have any Native American employees. Only four (14.3 percent) cited they employed between one to four Native Americans. One (3.6 percent) respondent reported nine Native American Employees.

Table 39

Future Hiring of Vocational Students

Hiring Plans	F	%
Will Hire One or Two More Vocational Students	17	65.4
Will Not Hire One or More Vocational Students	9	32.1

Whites

Fifteen respondents, 53.6 percent of the sample responded that they hired less than ten white employees, whereas 11 (39.3 percent) reported they had between 10 to 95 white employees. One (3.6 percent) person reported 112 white employees and one large company indicated they employed 801 whites.

Limited English Proficiency (LEP)

A majority (24) or 85.7 percent of survey respondents indicated they employed no LEP employees. Only three (10.7 percent) indicated they had between one to four LEP employees. One person (3.6 percent) reported they had eight limited English proficiency employees at the time they responded to the survey questionnaire.

Handicapped

Twenty-six (92.9 percent) of all persons responding to the questionnaire indicated they had no handicapped employees. One person (3.6 percent) reported two handicapped employees. One respondent reported that the firm he worked for had 51 handicapped persons in employment.

Female

A total of six (21.4 percent), persons reported no female employees, 14 (50 percent), reported between one to eight female employees, four (14.3 percent) cited between 12 to 28 female employees, and two (7.1 percent) reported between 50 to 100 female employees. One person (3.6 percent) reported 103 female employees and one large employer reported having 801 females employed.

Males

More than one half (16 or 57.1 percent) of survey participants reported having less than ten male employees, whereas six (21.4 percent) reported between ten to twenty male employees, and six (21.4 percent) reported more than 20 but less than 100 male employees. One (3.6 percent) person reported 151 male employees.

Table 40 provides frequencies, percentages and numbers of employees for nine categories of Yakima region employees.

Table 40

Frequencies, Percentages and Numbers of Employees for Nine Categories of Yakima Region Employees

Employment Classification	F	%	Employees
Asians	17	60.7	10
	10	15.7	1 to 4
	1	3.6	13
Blacks	25	89.3	0
	3	10.8	3 to 10
	1	3.6	10
Hispanics	14	50.0	0
	12	42.9	1 to 5
	1	3.6	27
Native Americans	23	82.1	0
	4	14.3	1 to 4
	1	3.6	9
Whites	15	53.6	< 10
	11	39.3	10 to 95
	1	3.6	112
	1	3.6	801
Limited English Proficient	24	85.7	0
	3	10.7	1 to 4
	1	3.6	8
Handicapped	26	92.9	0
	1	3.6	2
	1	3.6	51
Females	6	21.4	0
	14	50.0	1 to 8
	4	14.3	12 to 28
	2	7.1	50 to 100
	1	3.6	103
	1	3.6	709
Males	16	57.1	< 10
	6	21.4	10 to 20
	6	21.4	20 to 100

(E) Conclusions and Recommendations of the Project

The central focus of this project was identification of existing or potential barriers limiting students' access to vocational education opportunities. A few broad generalizations or conclusions seem possible based on the findings of this project.

Enrollment Patterns of Disadvantaged and Advantaged Students in Yakima School District

First of all, when considered quantitatively, those usually regarded as potentially disadvantaged with respect to educational opportunities in the vocational education field (such as females, minorities, migrant students, economically disadvantaged, handicapped, and limited English speakers), seem to have enrolled in as many vocational education courses as others with the exception of special education students, who seem to enroll in much fewer vocational education courses.

Secondly, there are differentiated patterns of enrollments in vocational education courses, reflecting qualitative differences as to what kinds of vocational education are being provided for students of special categories such as females, minorities, migrant youths, limited English students, special education students, or economically disadvantaged. Students in those categories seem to concentrate more on Business and Office Education courses and tend to enroll in fewer courses in the industrial arts and vocational agriculture area. It is important to note that such differentiated patterns of enrollment do not necessarily reflect the effects of the school district's educational policies, goals, programs, and activities. Other factors beyond the control of the district would also influence students' course selections.

Third, regardless of the specific causes for such differentiated enrollment patterns, it is reasonable to assume that students' present and future career development will depend upon more flexible, and more diversified exploration and learning experiences in fields including those which may not be according to traditional expectations, but which are realistic and consistent with current and future technological and economic trends.

Finally, a conceivable or probable barrier could be either unpopular or outmoded curriculum content in one or more of the IAVA areas. For example, industrial arts is changing to technology education emphasizing technological literacy and skills important for all students. A similar pattern is emerging in agriculture with a distinct emphasis away from production agriculture and toward agricultural emphasis in agra-business and urban agriculture. This may suggest an analysis of all vocational programs followed by creative curriculum development and design in new and emerging vocational and technical areas.

Barriers to Vocational Education as Determined by Students, Parents and Advisory Committee Members

The following broad conclusions and recommendations based on the questionnaire responses of students, parents and advisory committee members as to their perceptions of organizational and attitudinal barriers to vocational education.

1. Quantitatively, students classified as ethnic minority (non-white) and white students indicated very similar perceptions of barriers to vocational education.

2. When analyzed by gender, males and females also responded nearly identically as to their perceived barriers to vocational education.

3. A very significant barrier to vocational education was the counseling received by students with regard to vocational education. Students and parents indicated counselors are providing little support and encouragement to student's participation in vocational classes. The district should look at the counseling strategies used with regard to vocational education participation.

4. Knowledge of the Yakima Valley Vocational Skills Center was not a barrier for either parents or students. However significant barriers to enrollment for students included the inability to schedule YVVSC courses, the lack of information about YVVSC programs and no 10th grade enrollment. Adjusting the length of the vocational programs and providing additional information and activities to promote the YVVSC may aid in reducing these barriers.

5. Of those who planned to enroll in vocational courses before graduation, the majority intended to enroll in Business and Office Education courses with Industrial Arts, Skills Center and Home and Family Life courses indicated as choices, respectively. This pattern of course choices was also indicated in the student enrollment patterns listed previously and similar strategies might be employed to allow flexibility in these courses.

6. Fitting vocational classes into the schedule was the most significant barrier indicated for both students and parents. More specifically, vocational classes took up too many periods or took more than one semester to complete. It was interesting to note that parents, in even larger percentages than students, indicated their son/daughter was taking only college preparatory courses, and therefore had little time to enroll in vocational education. Creative scheduling of classes and equivalent credit options for vocational education should be explored, as well as the additional information on the importance of both vocational and general education to parents.

7. Parents and students indicated that parents generally provided encouragement to participate in vocational education. However, a significant barrier indicated by both groups was the lack of information of parents about vocational education to assist their son/daughter in making a decision to enroll. Parent education of vocational programs and course availability, both at the YVVSC and the high schools should be addressed by the district.

8. The opinions of friends are of little importance in the decision to enroll in vocational education. The opinions of teachers are somewhat more important in students' decisions to enroll. Neither serve as barriers to vocational programs.

9. Lack of skills or prerequisites to vocational classes were not significant barriers perceived by students or parents, to participation in vocational education.

10. Money as perceived by the majority of students was not a barrier to vocational education. However, a higher percentage of both females and non-white respondents perceived money as a barrier than males or white respondents. Additional vocational program information might be made available as to the real costs vs. perceived costs of vocational education classes in the district.

11. A substantial portion of the student population did not know about vocational student leadership organizations. This serves as a barrier to participation in these organizations. It is interesting to note, however, that those who did know about SLOs indicated that they provided good leadership training for students. Efforts should be directed, towards more effective presentations of the activities and benefits of vocational student leadership organizations.

12. The majority of students perceived vocational education as good preparation for jobs in important fields as well as vocational program completers having many job opportunities available to them. Parents indicated a lower level of confidence in both the preparation and opportunities for students completing vocational education programs, which may serve as a barrier to students decisions to enroll in vocational education. Parent education regarding the benefits and realities of vocational education should be explored.

13. Data indicated that employers are not actively using the local school system to locate prospective student or graduate vocational employees for the Yakima job market. A study could be directed to determine the communication between the school district and local employers.

14. There is a balanced demand for employees in entry level, semi-skilled, skilled and professional jobs.

15. Placement of Yakima vocational students can be increased by establishing a comprehensive job referral system.

16. White male and females have the highest percentage of employment within the survey group, followed by Asians and Hispanics. Few Native Americans, Blacks, limited English proficient or handicapped persons were employed by the survey respondents. The district could conduct a study to determine ways of increasing vocational offering to identified categories of underrepresented students.

(F) Project Dissemination Activities

Plans and proposals have been made to disseminate the results and findings of this vocational accessibility project through the following local, state and national publications, seminar and conference presentations.

Publications

1. Your Public Schools, published through the Office of the Superintendent of Public Instruction (OSPI)
2. The WVA Bulletin, published by the Washington Vocational Association (WVA)
3. Voc Ed, published by the American Vocational Association
4. Yakima Valley Herald, the local newspaper of the Yakima Valley area
5. The school newsletter of both regular high schools and the alternative program

Seminars/Conference Presentations

1. Seminar presentation at the National Council for Black Studies (NCBS) Pacific Northwest Region Conference, February 20-21, 1987 (Proposal has been submitted and accepted).
2. Seminar presentation at the Washington Association of Educators for Speakers of Other Languages (WAESOL), March 27-28, 1987.
3. Seminar presentation at the Washington Vocational Association (WVA) Conference, August, 1987.
4. Seminar presentation at the American Vocational Association (AVA) Convention, December 1987.
5. Seminar presentation at the National Association of Bilingual Education (NABE) Conference, April 1988.

Other Dissemination Activities

1. Personal letters to all Washington state vocational directors containing the abstract of the project and an overview of the findings and conclusions.

2. Availability of the principal investigators and the project director to present project information and serve as consultants for local, state or national organizations or persons wishing to use this project as a model for their own vocational accessibility study.

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Appendix A

Student Enrollment Data Collection Form

NAME Last[____________________] First[______________] Middle[_____]

ID (1-4)[__:__:__:__]

SCHOOL (5) 1 ( ) Davis H.S.
2 ( ) Eisenhower H.S.
3 ( ) Alternative

GRADE (6) 0 ( ) 10th
1 ( ) 11th
2 ( ) 12th

SEX (7) 1 ( ) Male
2 ( ) Female

RACE (8) 1 ( ) White
2 ( ) Asian
3 ( ) Black
4 ( ) Hispanic
5 ( ) Native
6 ( ) Other

SPED (9-10) MR( ) Mentally Retarded
SH( ) Sensory (Hear/Vis)
OI( ) Orthopedic
BD( ) Behavior Disabled
LD( ) Learn Disabled
HI( ) Health Impaired
MH( ) Multiple Handicap
CD( ) Communic Disorder
NO( ) Not SPED

LEP (11) 0 ( ) Not LEP
1 ( ) LEP

ECONOMIC (12) 0 ( ) Normal
1 ( ) School Lunch

MIGRANT (13) 0 ( ) Not Migrant
1 ( ) Migrant

Vo Ed Courses (Check if enrolled. For data entry assign 1 if enrolled, and otherwise 0. Numbers indicate column locations.)
B - Both Davis and Eisenhower
D - Davis only
E - Eisenhower only

Business-Office Education

ACCT1A 14 ( )B
ACCT1B 15 ( )B
ACCT1C 16 ( )B
BUSLAW 17 ( )B
CPTRLIT 18 ( )B
KEY1A 19 ( )B
KEY1B 20 ( )B
KEY1C 21 ( )B
OFFMACH 22 ( )B
OFFSIM 23 ( )B
SPWRTG1B 24 ( )B
SPWRTG1B 25 ( )B

MACHTRAN 26 ( )E
OFFPROC 27 ( )E
GENBUS 28 ( )E
INTROSAL 29 ( )E
AD/DIS 30 ( )E
CAREERX 31 ( )B
MDE 32 ( )E
OJTRNG 33 ( )E

STSTORE 34 ( )E
WKSTUDY 35 ( )E
KEY2A 36 ( )E
KEY2B 37 ( )E

ACCT2A 38 ( )D
ACCT2B 39 ( )D
ACCT2C 40 ( )D
BUSMATH 41 ( )D
RECORD1A 42 ( )D
RECORD1B 43 ( )D
WORDPROC 44 ( )D
CPTRAPP 45 ( )D
OFFPRA1A 46 ( )D
OFFPRA1B 47 ( )D
SECOFF1A 48 ( )D
SECOFF1B 49 ( )D
KEY2A 50 ( )D
KEY2B 51 ( )D
CASHREG 52 ( )D
INTRSALE 53 ( )D

RETSALES 54 ( )D
SYOB 55 ( )D
RETMERCH 56 ( )D
DO 57 ( )D

Industrial Arts Education (Including vo ag)

BEGARCH	58	( )E
ADVARCH	59	( )E
ADVDRAFT	60	( )E
VOCDRA1A	61	( )E
VOCDRA1B	62	( )E
VOCDRA1C	63	( )E
ELECTRI	64	( )E
WELD1A	65	( )E
WELD1B	66	( )E
METSHP1A	67	( )E
METSHP1B	68	( )E
INDUSHEC	69	( )E
KNOWCAR	70	( )E
ANIMSC1A	71	( )E
ANIMSC1B	72	( )E
ANIMSC1C	73	( )E
METFAB1A	74	( )E
METFAB1B	75	( )E
METFAB1C	76	( )E
BEGAGSHP	77	( )E
ARGON	78	( )E
ADVAGSCI	79	( )E
WOODWG1A	80	( )E
WOODWG1B	81	( )E
WOODWG1C	82	( )E
(RECORD 2)		
METRLTD	14	( )D
BEGWELD	15	( )D
INTWELD	16	( )D
ADVWELD	17	( )D
BASELEC1	18	( )D
BASELEC2	19	( )D
BASELEC3	20	( )D
VOCELEC	21	( )D
FUNDRA1A	22	( )D
FUNDRA1B	23	( )D
APPDRA2	24	( )D
APPDRA3	25	( )D
GRACOMM1	26	( )D
GRACOMM2	27	( )D
GRACOMM3	28	( )D
GRAPHPRO	29	( )D
BEGAUTMA	30	( )D
BEGAUMAG	31	( )D
SERSTTR1	32	( )D
SERSTTR2	33	( )D
WOOD1	34	( )D
ADVWOOD	35	( )D
CONSRLTD	36	( )D

Home-family Life Education

FAMLIV	37	( )B
FALIVLEA	38	( )B
DOLSENSE	39	( )B
CONLIV1A	40	( )B
CONLIV1B	41	( )B
ADVFOODS	42	( )B
ADVSEW	43	( )B
INTDESGN	44	( )B
CREACLTG	45	( )B
PARSKILL	46	( )E
COOKSING	47	( )E
CREACOOK	48	( )D
EXPCHILD	49	( )D

Skills Center

CPTRPROG	50	( )B
CASHCHEC	51	( )B
AUTOMECH	52	( )B
TVPROD	53	( )B
MEDCARER	54	( )B
ELECTRON	55	( )B
LEGMEDSE	56	( )B
COSMTLGY	57	( )B
DENTASST	58	( )B
BLDGTRDE	59	( )B
RADIOBRO	60	( )B
AVIAMECH	61	( )B
GRAPHCOM	62	( )B
AUTBODRE	63	( )B

Additional variables

Name	Column	Value Options
____________________	64	_________________
____________________	65	_________________

Special Remarks

Appendix B

Possible Barriers to Participation in High School Vocational Education

1. Perceived lack of ability on the part of the student.
2. Perceived lack of employment opportunities upon completion of vocational education programs and the perceived low prestige of the those occupations.
3. Inability to schedule vocational education classes.
4. Lack of money to pay lab fees, etc.
5. Lack of support from peers, counselors, parents and teachers.
6. Lack of knowledge about the program.
7. Lack of English proficiency.
8. Lack of social readiness to make decisions about vocational education.
9. Prejudice and stereotypes on the part of peers, teachers, counselors, and administrators.
10. Education aspirations that are incongruent with ability and/or resources available.
11. Inability to participate due to entrance requirements (i.e.— personal interviews, tests, etc.)
12. Lack of knowledge about course offerings at the Yakima Valley Vocational Skills Center.*

*Added upon review of preliminary list by Yakima District Personnel

Appendix C

Dear Participant,

The purpose of the attached survey is to gather information concerning student participation in high school vocational education classes in Yakima. Vocational education classes are those that prepare students for entry level jobs in fields such as accounting/bookkeeping, electronics, interior design, graphic communications and agriculture.

Your opinions are very important! Please read and respond honestly to each question on the survey form. Also, please write as neatly as possible. Complete each question before going on to the next.

The results from this survey will be used to assess the current vocational education programs and develop future plans for high school vocational education in the Yakima School District. Your participation in the study is greatly appreciated.

VOTE
"Your answers CAN make a difference!"

High School Vocational Information Survey

Directions: Information is being gathered for the purpose of improving vocational opportunities in the Yakima School District. Your help is needed! Please answer each question in this survey as accurately and completely as possible. This is not a test and the answers you give will not affect your grades in any way. Neither your teachers nor other students will see your answers. DO NOT SIGN YOUR NAME ON THIS SURVEY!

Be sure to answer ALL questions according to the directions given for that question. Thank you!

1. School (please mark only one)

(1) _____ Davis
(2) _____ Eisenhower
(3) _____ Alternative program

2. Present Grade (please mark only one)

(1) _____ 10th
(2) _____ 11th
(3) _____ 12th

3. Gender (please mark only one)

(1) _____ Female
(2) _____ Male

4. Optional—Ethnic Classification (please mark only one)

(1) _____ Asian
(2) _____ Black
(3) _____ Hispanic
(4) _____ Native
(5) _____ White
(6) _____ Other (please specify): ________________________

5. What are your plans after you leave high school? (Mark all that apply.)

(1) _____ Additional education (check one)
___ University ___ Community College
___ Vocational Technical Institute ___ Private Trade School

(2) _____ Military
(3) _____ Work
(4) _____ Marriage
(5) _____ Undecided
(6) _____ Other (please specify): ________________________
____

6. Have you had enough career guidance to make a decision to enroll in vocational education? (please mark only one)

(1) _____ Yes (skip to question #8)
(2) _____ No (go to next question)

7. If you answered "no" to question #6, what additional career guidance would be needed to help you make a decision? (mark all that apply)

(1) _____ Would not be interested in vocational education, even with additional career guidance
(2) _____ Have counselors explain vocational education classes/programs to me
(3) _____ Provide open houses or displays on vocational education classes
(4) _____ Personal invitation from the vocational teacher
(5) _____ Other (please specify): ________________________________
____

8. Have you heard of the Yakima Valley Vocational Skills Center? (mark only one answer)

(1) _____ Yes
(2) _____ No

9. Would you be willing to go to the Yakima Valley Vocational Skills Center to take a vocational class of interest to you? (mark only one)

(1) _____ Yes
(2) _____ Maybe
(3) _____ No

10. Have you taken a class at the Yakima Valley Vocational Skills Center? (mark all that apply)

(1) _____ Yes (skip to question #12)
(2) _____ Currently enrolled (skip to question #12)
(3) _____ No (go to next question)

11. If you answered "no" to question #10, why haven't you enrolled in vocational classes at the Yakima Valley Vocational Skills Center? (mark all that apply)

(1) _____ There are no classes of interest to me at the YVSC
(2) _____ None of my friends attend the YVSC
(3) _____ It's too far to travel
(4) _____ Was not informed about programs at YVSC
(5) _____ The Skills Center does not enroll 10th grade students
(6) _____ Cannot fit Skills Center classes into my schedule
(7) _____ Other (please specify): ________________________________

12. Have you taken additional vocational education classes beyond the graduation requirement? (mark all that apply)

(1) _____ Yes
(2) _____ Currently enrolled
(3) _____ No

13. Do you plan to enroll in additional vocational education classes before leaving high school? (mark only one answer)

(1) _____ Yes (go to next question)
(2) _____ Undecided (go to next question)
(3) _____ No (skip to question #15)

14. If you answered "yes" or "undecided," what kinds of vocational classes do you think you will take? (mark all that apply)

(1) _____ Accounting/Bookkeeping
(2) _____ Secretarial/Clerical
(3) _____ Computer Applications
(4) _____ General Business
(5) _____ Business Office Procedures
(6) _____ Marketing & Distributive Ed.
(7) _____ Advertising & Display
(8) _____ Business Law
(9) _____ Keyboarding
(10) _____ Starting Your Own Business
(11) _____ Diversified Occupations
(12) _____ Cashier/Checker
(13) _____ Fashion Merchandising

(14) _____ Cosmetology
(15) _____ Auto Mechanics
(16) _____ TV Production
(17) _____ Health Science/Nursing
(18) _____ Legal Med. Secretary
(19) _____ Dental Assistant
(20) _____ Radio Broadcasting

(21) _____ Exploring Childhood
(22) _____ Contemporary/Family Living
(23) _____ Foods/Cooking
(24) _____ Creative Clothing/Sewing
(25) _____ Interior Design
(26) _____ Parenting Skills

(27) _____ Welding
(28) _____ Drafting
(29) _____ Electronics
(30) _____ Architecture
(31) _____ Metal Working
(32) _____ Graphic Communications
(33) _____ Aviation Mechanic
(34) _____ Auto Body Repair
(35) _____ Printing
(36) _____ Agriculture
(37) _____ Animal Science
(38) _____ Agronomy
(39) _____ Building Trades

15. Have you had problems fitting vocational classes into your schedule? (mark only one)

(1) _____ Yes (go to next question)
(2) _____ No (go to question #17)

16. If you have had problems fitting vocational classes into your schedule, what were the problems that you had? (mark all that apply)

(1) _____ Class took up too many periods in my daily schedule
(2) _____ Class took more than one semester to complete
(3) _____ Was not able to take the vocational class I wanted because it was filled
(4) _____ Am taking only college preparatory classes.
(5) _____ Other (please specify): ______________________________
____

17. Has your counselor encouraged you to participate in vocational education? (mark only one)

(1) _____ Yes
(2) _____ No

18. Which of the following best describes the support of your parent(s) towards your involvement in vocational classes? (mark only one)

(1) _____ They encourage me to participate in vocational education classes.
(2) _____ They don't know enough about vocational education classes to encourage me to participate.
(3) _____ They do not want me to participate in vocational education.
(4) _____ Other (please specify): ______________________________
____

19. How important are the opinions of your friends in your decision to take vocational education classes? (mark only one)

(1) _____ Extremely important
(2) _____ Important
(3) _____ Somewhat important
(4) _____ Not important at all

20. How important are the opinions of your teachers in your decision to take vocational education classes? (mark only one)

(1) _____ Extremely important
(2) _____ Important
(3) _____ Somewhat important
(4) _____ Not important at all

21. Do you feel you have the skills to do well in a vocational class? (mark only one)

(1) _____ Yes (skip to question #23)
(2) _____ No (go to next question)
(3) _____ Don't know (go to next question)

22. If you don't know or don't feel you have the skills, indicate which skills are lacking below. (Check all that apply)

(1) _____ My math skills are not good enough
(2) _____ My reading skills are not good enough
(3) _____ Vocational classes require too much work in class
(4) _____ My English speaking ability is not good enough
(5) _____ My English writing ability is not good enough
(6) _____ I don't like to work with my hands
(7) _____ Other (please specify):_____________________________
____

23. Do the prerequisites to get into vocational classes keep you from participating in vocational classes? (mark only one)

(1) _____ Yes (skip to question #25)
(2) _____ No (go to next question)

24. Why do the prerequisites keep you from participating in vocational education? (mark all that apply)

(1) _____ They are too difficult for me
(2) _____ They are too time consuming
(3) _____ They look at my previous attendance records
(4) _____ Other (please specify):_____________________________
____

25. Does lack of money keep you from taking vocational education classes? (mark only one)

(1) _____ Yes
(2) _____ Maybe
(3) _____ No

26. What do you think about vocational education student leadership organization activities (i.e.—FFA, DECA, FBLA, VICA, FHA)? (mark all that apply)

(1) _____ They provide good leadership training
(2) _____ Too many activities are required
(3) _____ I don't have enough money to participate in activities
(4) _____ I do not know about vocational education student leadership organizations
(5) _____ Other (please specify):_____________________________
____

27. Do you think students who complete a vocational education program have many job opportunities available to them? (mark only one)

(1) _____ Yes
(2) _____ No
(3) _____ Don't know

28. Do you think vocational education programs offered at your school prepare students for jobs in important fields? (mark only one)

(1) _____ Yes
(2) _____ No
(3) _____ Don't know

29. Are there any other reasons, not mentioned in this survey, that keep you from taking vocational education classes? Please list those reasons on the lines below.

1. ______________________________
____

2. ______________________________
____

3. ______________________________
____

4. ______________________________
____

5. ______________________________
____

"THANK YOU!!!"

Appendix D

Teacher Instruction Sheet

High School Vocational Information Survey

____

(Teacher's Name)

This morning in your homeroom period, please give the attached survey to ONLY 10, 11, 12th grade students. The following instructions should be helpful in gathering accurate data:

1. Review the survey cover letter with the students.
2. Answer any questions students may have.
3. Emphasize the need to write accurately and clearly and answer each question honestly.

After students finish the survey, please bundle them together with a rubber band, place this letter on top, and have a student bring them to the main office during the homeroom period.

"THANK YOU!"

Appendix E

Eisenhower High School Teacher
Check Off Sheet

	Returned	Name
1.	________	Aho
2.	________	Bakker
3.	________	Balmer
4.	________	Bischoff
5.	________	Boatright
6.	________	Bonger
7.	________	Carmondy
8.	________	Case
9.	________	Crago
10.	________	Demick
11.	________	Dunham
12.	________	Eby
13.	________	Felton
14.	________	Finney
15.	________	Fishback
16.	________	Fitch, S.
17.	________	Fitch, V.
18.	________	Geffre
19.	________	Gordon
20.	________	Gural
21.	________	Hanson
22.	________	Hillbusch
23.	________	Hulse
24.	________	Jennings
25.	________	Karstetter
26.	________	Kring
27.	________	Kuykendall
28.	________	Lenington
29.	________	Loewe
30.	________	Lyon
31.	________	Mills
32.	________	Maletor
33.	________	Mortimer
34.	________	Naasz
35.	________	Nelson
36.	________	Neumann
37.	________	Pandiani
38.	________	Poulin
39.	________	Putney
40.	________	Reilly
41.	________	Rishor
42.	________	Roberts
43.	________	Rogers
44.	________	Romig
45.	________	Scoggins
46.	________	Seidenburg
47.	________	Sonker
48.	________	Stone
49.	________	Treat
50.	________	Wagner
51.	________	Wedner

Appendix E

Davis High School Teacher
Check Off Sheet

	Returned	Name
1.	________	Albertson
2.	________	Bauer
3.	________	Benedicto
4.	________	Bodeen
5.	________	Bounds
6.	________	Brown
7.	________	Capp
8.	________	Castilleja
9.	________	Clark
10.	________	Donaldson
11.	________	Ehrman
12.	________	Eglin
13.	________	Harbeck
14.	________	Harves
15.	________	Hawkins
16.	________	Hays
17.	________	Hintze
18.	________	Kuebler
19.	________	Lovins
20.	________	McKenna
21.	________	Meechan
22.	________	Miller
23.	________	Milas
24.	________	Mitchell
25.	________	Mitseff
26.	________	Monahan
27.	________	Moore
28.	________	Moreno
29.	________	Neubauer
30.	________	O'Brien
31.	________	Olsen
32.	________	Otto
33.	________	Pederson
34.	________	Peterson
35.	________	Prout
36.	________	Ranta
37.	________	Rostvold
38.	________	Scholl
39.	________	Schwab
40.	________	Solowan
41.	________	Sparks
42.	________	Stone
43.	________	Sublett
44.	________	Sugura, Mrs.
45.	________	Sugura, Mr.
46.	________	Thorson
47.	________	Torres
48.	________	Van Johnson
49.	________	Weppler
50.	________	Wright

Appendix F

Washington
State University

Department of Elementary and Secondary Education, Pullman, Washington 99164-2122

November 26, 1986

Dear Parent,

The Yakima Public Schools, with help from Washington State University is conducting a study to assess the current vocational education programs and the accessibility of students to those programs. This information will be used in future planning for vocational education provided in Yakima.

All 10th, 11th and 12th grade students were surveyed recently regarding their perceptions of vocational education. Now it's your turn! Enclosed is a questionnaire designed to complete the study. Your opinion would be greatly appreciated. Please mark the appropriate response for each item. If you would like to include comments of your own, please write them on the "other" response line provided. All responses will be handled confidentially and anonymously.

We hope to complete the study by December 15, 1986 and your prompt return of this survey, in the postage paid envelope, will help us a great deal. The results of this study will appear in the high school newsletter, early in 1987.

Thank you,

Merrill M. Oaks
Dr. Merrill Oaks
Project Director
Washington State University

Cynthia Dillard
Cynthia Dillard
Graduate Teaching Assistant
Washington State University

Enclosures: Questionnaire
Return Envelope

Parent Vocational Information Survey

Directions: Information is being gathered for the purpose of improving vocational opportunities in the Yakima School District. Your help is needed! Please answer each question in this survey as accurately and completely as possible. DO NOT SIGN YOUR NAME ON THIS SURVEY!

Be sure to answer ALL questions according to the directions given for that question. Thank you!

1. School which your son/daughter attends

(1) _____ Davis
(2) _____ Eisenhower
(3) _____ Alternative programs

2. Optional--Ethnic Classification (please mark only one)

(1) _____ Asian
(2) _____ Black
(3) _____ Hispanic
(4) _____ Native
(5) _____ White
(6) _____ Other (please specify):________________________

3. What are your son/daughter's plans after they leave high school? (Mark all that apply.)

(1) _____ Additional education (check one)
___ University ___ Community College
___ Vocational Technical Institute ___ Private Trade School

(2) _____ Military
(3) _____ Work
(4) _____ Marriage
(5) _____ Undecided
(6) _____ Other (please specify): ______________________________
____

4. Do you feel they have had enough career guidance to make a decision to enroll in vocational education? (please mark only one)

(1) _____ Yes (skip to question #6)
(2) _____ No (go to next question)
(3) _____ Don't know (skip to question #6)

5. If you answered "no" to question #4, what additional career guidance would be needed to help them make a decision? (mark all that apply)

(1) _____ They would not be interested in vocational education, even with additional career guidance
(2) _____ Have counselors explain vocational education classes/programs to them
(3) _____ Provide open houses or displays on vocational education classes
(4) _____ Personal invitation from the vocational teacher
(5) _____ Other (please specify): ________________________________
____

6. Have you heard of the Yakima Valley Vocational Skills Center? (mark only one answer)

(1) _____ Yes
(2) _____ No

7. Would you be willing for your son/daughter to go to the Yakima Valley Vocational Skills Center to take a vocational class of interest to them? (mark only one)

(1) _____ Yes
(2) _____ Maybe
(3) _____ No

8. Have your son/daughter taken a class at the Yakima Valley Vocational Skills Center? (mark all that apply)

(1) _____ Yes (skip to question #10)
(2) _____ Currently enrolled (skip to question #10)
(3) _____ No (go to next question)

9. If you answered "no" to question #8, why haven't they enrolled in vocational classes at the Yakima Valley Vocational Skills Center? (mark all that apply)

(1) _____ There are no classes of interest to them at the YVSC
(2) _____ None of their friends attend the YVSC
(3) _____ It's too far to travel
(4) _____ They were not informed about programs at YVSC
(5) _____ The Skills Center does not enroll 10th grade students
(6) _____ They cannot fit Skills Center classes into their schedule
(7) _____ Other (please specify): ________________________________

10. Have they taken additional vocational education classes beyond the graduation requirement? (mark all that apply)

(1) _____ Yes
(2) _____ Currently enrolled
(3) _____ No
(4) _____ Don't know

11. Does your son/daughter plan to enroll in additional vocational education classes before leaving high school? (mark only one answer)

(1) _____ Yes (go to next question)
(2) _____ Don't know (skip to question 13)
(3) _____ No (skip to question #13)

12. If you answered "yes" what kinds of vocational classes do you think they will take? (mark all that apply)

(1) _____ Accounting/Bookkeeping
(2) _____ Secretarial/Clerical
(3) _____ Computer Applications
(4) _____ General Business
(5) _____ Business Office Procedures
(6) _____ Marketing & Distributive Ed.
(7) _____ Advertising & Display
(8) _____ Business Law
(9) _____ Keyboarding
(10) _____ Starting Your Own Business
(11) _____ Diversified Occupations
(12) _____ Cashier/Checker
(13) _____ Fashion Merchandising

(14) _____ Cosmetology
(15) _____ Auto Mechanics
(16) _____ TV Production
(17) _____ Health Science/Nursing
(18) _____ Legal Med. Secretary
(19) _____ Dental Assistant
(20) _____ Radio Broadcasting

(21) _____ Exploring Childhood
(22) _____ Contemporary/Family Living
(23) _____ Foods/Cooking
(24) _____ Creative Clothing/Sewing
(25) _____ Interior Design
(26) _____ Parenting Skills

(27) _____ Welding
(28) _____ Drafting
(29) _____ Electronics
(30) _____ Architecture
(31) _____ Metal Working
(32) _____ Graphic Communications
(33) _____ Aviation Mechanic
(34) _____ Auto Body Repair
(35) _____ Printing
(36) _____ Agriculture
(37) _____ Animal Science
(38) _____ Agronomy
(39) _____ Building Trades

13. Has your son/daughter had problems fitting vocational classes into their schedule? (mark only one)

(1) _____ Yes (go to next question)
(2) _____ No (skip to question #15)
(3) _____ Don't know (skip to question 15)

14. If they've had problems fitting vocational classes into their schedule, what were the problems that they had? (mark all that apply)

(1) _____ Class took up too many periods in their daily schedule
(2) _____ Class took more than one semester to complete
(3) _____ Were not able to take the vocational class they wanted because it was filled
(4) _____ Are taking only college preparatory classes.
(5) _____ Other (please specify): ______________________________
____

15. Has your son/daughter's counselor encouraged him/her to participate in vocational education? (mark only one)

(1) _____ Yes
(2) _____ No
(3) _____ Don't know

16. Which of the following best describes your feelings towards your son/daughter's involvement in vocational classes? (mark only one)

(1) _____ I encourage him/her to participate in vocational education classes.
(2) _____ I don't know enough about vocational education classes to encourage him/her to participate.
(3) _____ I do not want him/her to participate in vocational education.
(4) _____ Other (please specify): ______________________________
____

17. How important are the opinions of your son's/daughter's friends in their decision to take vocational education classes? (mark only one)

(1) _____ Extremely important
(2) _____ Important
(3) _____ Somewhat important
(4) _____ Not important at all

18. How important are the opinions of their teachers in their decision to take vocational education classes? (mark only one)

(1) _____ Extremely important
(2) _____ Important
(3) _____ Somewhat important
(4) _____ Not important at all

19. Do you feel your son/daughter has the skills to do well in a vocational class? (mark only one)

(1) _____ Yes (skip to question #21)
(2) _____ No (go to next question)
(3) _____ Don't know (go to next question)

20. If you don't know or don't feel they have the skills, indicate which skills they are lacking below. (Mark all that apply)

(1) _____ His/her math skills are not good enough
(2) _____ His/her reading skills are not good enough
(3) _____ Vocational classes require too much work in class
(4) _____ His/her English speaking ability is not good enough
(5) _____ His/her English writing ability is not good enough
(6) _____ He/she doesn't like to work with his/her hands
(7) _____ Other (please specify):________________________________
____

21. Does lack of money keep your son/daughter from taking vocational education classes? (mark only one)

(1) _____ Yes
(2) _____ Maybe
(3) _____ No

22. What do you think about vocational education student leadership organization activities (i.e.--FFA, DECA, FBLA, VICA, FHA)? (mark all that apply)

(1) _____ They provide good leadership training for students
(2) _____ Too many activities are required
(3) _____ Costs too much money to participate in activities
(4) _____ I do not know about vocational education student leadership organizations
(5) _____ Other (please specify):________________________________
____

23. Do you think students who complete a vocational education program have many job opportunities available to them? (mark only one)

(1) _____ Yes
(2) _____ No
(3) _____ Don't know

24. Do you think vocational education programs offered at your son/daughter's school prepare students for jobs in important fields? (mark only one)

(1) _____ Yes
(2) _____ No
(3) _____ Don't know

25. Are there any other reasons, not mentioned in this survey, that keep your son/daughter from taking vocational education classes? Please list those reasons on the lines below.

1. ______________________________

____

2. ______________________________

____

3. ______________________________

____

PLEASE RETURN IN THE POSTAGE PAID ENVELOPE PROVIDED.

"THANK YOU!"

Appendix G

Washington
State University

Department of Elementary and Secondary Education, Pullman, Washington 99164-2122

December 1, 1986

Dear Advisory Committee Member,

The Yakima Public Schools, with help from Washington State University is conducting a study to assess the current vocational education programs and the accessibility of students to those programs. This information will be used in future planning for vocational education provided in Yakima.

All 10th, 11th and 12th grade students and a random sample of parents were surveyed recently regarding their perceptions of vocational education. Now it's your turn! Enclosed is a questionnaire designed to complete the study. Your opinion would be greatly appreciated. Please mark the appropriate response for each item. If you would like to include comments of your own, please write them on the "other" response line provided. All responses will be handled confidentially and anonymously.

We hope to complete the study by December 15, 1986 and your prompt return of this survey, in the postage paid envelope, will help us a great deal. The results of this study will appear in the high school newsletter and local newspaper, early in 1987.

Thank you,

Merrill M. Oaks

Dr. Merrill Oaks
Project Director
Washington State University

Cynthia Dillard

Cynthia Dillard
Graduate Teaching Assistant
Washington State University

Enclosures: Questionnaire
Return Envelope

Advisory Committee

Vocational Information Survey

Directions: Information is being gathered for the purpose of improving vocational opportunities in the Yakima School District. Your help is needed! Please answer each question in this survey as accurately and completely as possible. DO NOT SIGN YOUR NAME ON THIS SURVEY!

Be sure to answer ALL questions according to the directions given for that question. Thank you!

1. Type of Company

(1) _____ Retail
(2) _____ Wholesale
(3) _____ Manufacturing
(4) _____ Other (please specify): ______________________________
____

2. Size of Company

(1) _____ 1-5 employees
(2) _____ 6-20 employees
(3) _____ 21-40 employees
(4) _____ 41 or more employees

3. Types of Jobs (Mark all that apply)

(1) _____ Entry level
(2) _____ Semi-skilled
(3) _____ Skilled
(4) _____ Professional
(5) _____ Other (please specify): ______________________________
____

4. How do you locate employees for the positions listed in question #3? (Mark all that apply)

(1) _____ Classified advertisements
(2) _____ Local high school vocational programs
(3) _____ Direct referrals
(4) _____ Other (please specify): ______________________________
____

5. Please indicate the number of current employees who are of the following groups. You may count an employee in more than one category.

		Number Currently Employed
(1)	Asian	
(2)	Black	
(3)	Hispanic	
(4)	Native American	
(5)	White	
(6)	Limited English Proficient	
(7)	Handicapped or Disabled	
(8)	Female	
(9)	Male	

6. Have you ever hired a student enrolled in a vocational program in the Yakima high schools or skill center?

(1) _____ Yes (skip to question #8)
(2) _____ No (go to next question)

7. Why have you not hired a high school vocational education student? (Mark all that apply)

(1) _____ No vocational education students have been referred to me.
(2) _____ They do not have the skills necessary for jobs with this company.
(3) _____ Vocational education programs do not train students for jobs in this field.
(4) _____ Other (please specify): ______________________________
____

8. Do you have plans to hire one or more vocational education students in the future? (check only one)

(1) _____ Yes
(2) _____ No

PLEASE RETURN THIS SURVEY IN

THE POSTAGE PAID ENVELOPE PROVIDED---

"THANK YOU!"